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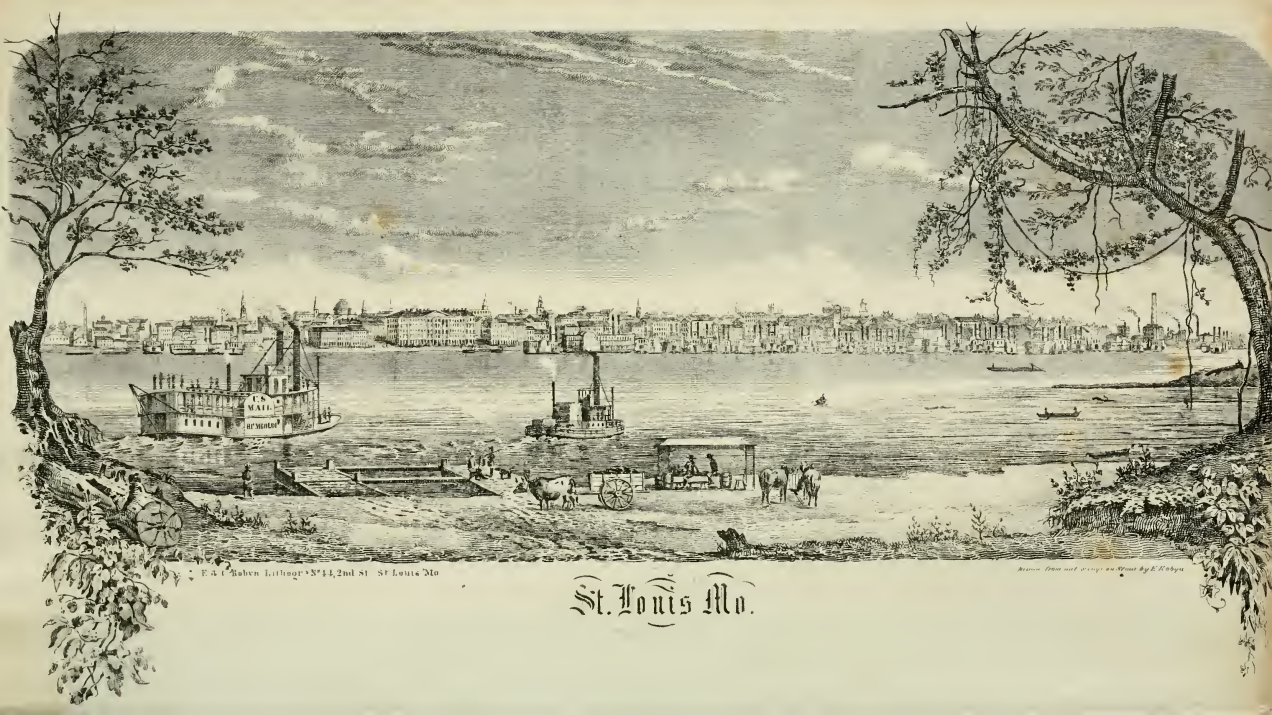
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DEVOTED TO

Agriculture, Manufactures, Mechanic Arts, Internal Improvement, Commerce,

PUBLIC POLICY,

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POLITE LITERATURE.

Agriculture and the Mechanic Arts are the basis of Civilization.

M. TARVER & H. COBB,
EDITORS & PROPRIETORS.

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ARTICLE I.

Slopes and Valleys of the Rocky Mountains.

In reviewing what we have written and published touching the vast and varied resources of the United States, we discover that we have omitted to discuss one great element of individual and national wealth: the wool growing capacity of the slopes and vallies of the Rocky Mountains. Nor has this topic been treated in connection with the future wealth and grandeur of the American republic in any work which has come within the range of our observation.

From the adaptation of the Southern States to the production of cotton, in connection with the nature of their civil and domestic institutions, is derived the most important staple of American commerce at home and abroad. Hitherto, cotton and Indian corn have been regarded as agricultural staples, which could never be rivalled by any other branch of rural industry, on our part of this continent. There is, indeed, a peculiar adaptation of climate, soil and seasons to the growth of these plants in certain districts of the U. S., which does not exist perhaps in any other country; but we believe, it may be safely affirmed that the slopes and valleys of the mountain ranges dividing the waters of the two great oceans which bound our continent, are not less happily adapted to the production of wool, than are the Southern and Middle States to the growth of cotton and Indian corn, and that sheep growing will, in time, become a source of national wealth, equal at least to either of those great staples.

The entire region lying west of Missouri, extending to the Pacific ocean, and from the Gulf of Mexico to our northern boundary, may be described as decidedly pastoral in its character. It

is true, this region embraces extensive deserts, and it also contains large tracts highly favorable to pursuits strictly agricultural; but the former constitute only a small proportion of its entire area, while the latter is admirably adapted to the pursuits of the herdsman as well as those of the farmer and planter.

We are led to conclude from accounts given by various individuals that sheep are more prolific in portions of this region than in any other country of which we have any knowledge. Captain Wilkes, in his account of the exploring expedition, says, in Oregon "the sheep have lambs twice a year. Those of the California breed yield a very inferior kind of wool, which is inclined to be hairy near the hide, and is much matted. This breed has been crossed with the Leicester, and other breeds, which has much improved it. The fleeces of the mixed breed are very heavy, weighing generally eight pounds, and some as much as twelve."

New Mexico, and indeed every part of this extensive region, where sheep have been introduced, has been found exceedingly favorable to their growth. In the valley of the Rio del Norte, in California and Oregon, they subsist upon the natural pastures, in good condition, throughout the winter, requiring no care beyond that which is necessary to protect them against the depredations of the Indians and beasts of prey.

None but those who have seen the immense herds of Buffalo, which subsist upon the plains, can imagine the number of sheep that this extensive region is capable of supporting. It is scarcely assuming too much to affirm that it can supply the markets of the world with one of the most important commodities of commerce and human comfort. And yet, with the exception of a few small districts, this great region is generally, nay almost universally, regarded as a desert. It is important, in many respects, that this ignorance of the true value of such a large part of our own country should be removed. The opinion, that Missouri is separated from California by a desert of two thousand miles, leads to the conclusion that it must forever remain a border State, and weakens the confidence of her own citizens as well as of capitalists, in the value of her works of internal improvement. This imaginary desert operates as a real, substantial impediment to the construction of a railway from the Mississippi river to the Pacific ocean; for, besides the imaginary difficulties to be encountered in constructing and keeping in repair a railroad across a desert of two thou-

sand miles, no calculation is made upon any business which the country will afford along the line between Missouri and California.

We remember when, in common with others, we likewise regarded this vast region as a waste, a feature in the physical geography of the continent, calculated to detract from the political power and moral influences of the American people, by separating the inhabitants of the valley of the Mississippi from those on the Pacific coast, at a distance so great that there could be neither social intercourse nor sympathy between them; at least in a degree sufficient to bind them together as constituents of one general government. But subsequent researches into the published accounts of travellers, and information derived from intelligent and experienced individuals who have not only travelled but spent much time in different parts of the country, have lead us to a different conclusion.

All travellers agree that from the western boundary of Missouri through a district of from one hundred to one hundred and twenty miles, the soil is exceedingly fertile, the country well watered and beautifully diversified by groves and undulating prairies. This is generally regarded as one of the most desirable agricultural districts in the basin of the Mississippi. But proceeding westward, beyond this point, the timber fails, except, perhaps, near some of the principal streams; and though the soil changes in character, it is still productive of excellent pasturage to the base of the Rocky Mountains. The following is a description of the valley of the Kanzas, from the pen of Col. W. Gilpin, a highly intelligent gentleman, who has travelled extensively over mountain and plain. We extract from the "Missouri Democrat:"

"Beyond the western line of Missouri is a delicious country of immense extent, through the centre of which flow the waters of the Kansas river. Many rivulets, having their sources under the roots of the Sierra Madre, (Rocky Mountains,) issue from the bottom of the Piedmont or slope that smoothes the fading of the mountain base into the Great Prairie. These converging, some into a bunch to the left, and some to the right, form, the first the Republican river, and the second, the Smoky Hill river. These two rivers meander in channels guttered out of the plains, generally parallel but a few miles asunder, only the first arching out in its middle course towards the Platte, and the latter similarly towards the Arkansas. They receive many small affluents by both banks, and uniting one hundred and twenty miles due west of Independence, form together the Kansas river. This then flows by a nearly

straight line due east, entering the Missouri river at the point of the elbow, where it is crossed by the western boundary line of the State of Missouri. The basin of the Kansas, in shape, resembles the open hand laid upon a table, the finger-points touching the foot of the mountains, and the wrist, above the joints, reaching the Missouri river. The length of this basin along the line traversing it east and west, is about six hundred miles—its width from south to north about two hundred—it is therefore oval in form, and the rim which surrounds it has only a gentle prairie swell. Its area is 120,000 square miles. It lies entirely within the plains, and has no contact with, nor does it receive any waters from the mountains.

The Basin of the Kansas is entirely enveloped by those of the rivers Platte and Arkansas. These two rivers have their sources in Pike's Peak, the loftiest point in the chain of the Rocky Mountains within our territory, and capped with perpetual snow. The Platte issues from the north flank; the Arkansas from the south flank of Pike's Peak. This snowy mass is due west from, and opposite to the head of the Kansas basin. These two great rivers diverge rapidly. The Platte, after a course of one thousand miles, joins the Missouri river near Council Bluff, three hundred miles north of Kansas; the Arkansas, of equal length, enters the State of Arkansas at Fort Smith, three hundred miles south of Kansas.

The characteristics of the country embraced in the Kansas Basin are novel to a great majority of the American people—but so were those of Kentucky and all other portions of the Mississippi Valley, when first visited and seen by the seaboard people. Nevertheless, these novelties are entirely in its favor, and invest it with attractions of the very highest order. It is everywhere of limestone formation, but in the upper part there is plaster, or the sulphate of lime: the surface is everywhere an uniformly undulating prairie, having the greatest depth of rich, diluvial soil; this soil is a natural compost of the carbonate and sulphate of lime, having a lustrous mulatto tint. As far as intrinsic principles of fertility and comparison are capable of settling such a question, the productive capacity of the Kansas Basin is greater and more uniform than any other equal sized patch of the earth's surface. Being entirely beyond the timbered region of the continent, and rising towards the West with the gentlest slope, its surface has the appearance of being formed by the deposit of an ocean of still water, and smoothed by its pressure. Its undulations are rounded, graceful, and everywhere rising to the most perfect picturesque beauty. Luxuriant grasses cover it in incalculable variety, and successive crops of flowers everywhere succeed one another from the vernal until long after the autumnal equinox. Meandering streams lace it with their small ravines, irrigate it and chequer it with romantic groves. Stratified limestone and coal underlie its

whole expanse. Beds of the latter, ignited and presenting the phenomena of pseudo-volcanoes, have suggested the name of the *Smoky-hill* fork.

The western extremity of this basin penetrates into the great *pastoral* belt of the continent. Here the streams become attenuated, and the irrigation from the clouds greatly diminished. Without much change in the elements of fertility, the mellowness of the soil decreases, the surface grows compact, and the grasses cover the ground like a delicate velvet moss. This is the wonderful *buffalo-grass*, which, growing during the evaporations from the rivers in the hot months, cures into hay when that ceases, and furnishes winter pasture for millions of these *aboriginal* cattle, for the wild horse, for the antelope, and for venison. The absence of timber is no drawback—it is a supreme advantage. For fuel there is coal—for buildings the healthy *adobie* house is here dictated by the climate; the *adobie* fence combines economy and permanence. Of *Indians* there are only a few hundred in this vast territory, and they largely self-trained to habits of pastoral and arable culture. We speak of this country from the most thorough familiarity and examination. Far from exaggerating, we repress down to the coldest moderation, the wonder and admiration with which all who traverse it are inspired.

But the Kansas basin *ought* to rise to an exalted position in the favor of the whole American people. Sublimely formed by nature to fit its position, it is the GEOGRAPHICAL CENTRE of their country. If from the forks of the Kansas river as a centre, a circle be described, it will touch New Orleans and Galveston upon the Gulf frontier—the same circle will touch the 49th degree on the North, as a tangent. If, again, a circle of larger radius be described from the same centre, it will pass through the cities of San Francisco, in California, and Vancouver, on the Columbia, in Oregon; it will cut the seaport cities of Quebec and Boston, upon the Atlantic; Havana in the Gulf; Vera Cruz and the City of Mexico. It is wonderfully the centre of our territory, both present and prospective. Here is the exact geographical *centre* of the continent, of the Union, of the Valley of the Mississippi, to the North and South, and East and West."

It is possible that the enthusiasm of the writer may have infused a brilliancy of colouring into his description of the Kansas valley, which might not be recognized by the common observer, but in its principal features it is doubtless correct. Col. Gilpin says: "stratified limestone and coal underlie its whole expanse." We do not remember to have seen this fact in respect to coal stated in as strong terms by any other traveller. But the writer is a man of much learning, a close observer of natural phenomena, and well acquainted with the region which he has undertaken to describe.

Pursuing the same parallels of latitude occupied by the Kansas Valley, we cross the head waters of the Arkansas and Rio del Norte, and thence to the valley of Grand river, which is described by travellers as a fertile region of unrivalled beauty, abounding in streams of pure water, and possessing a climate delicious and salubrious.

In a letter from Antoine Laroux, which recently appeared in the Missouri Democrat and other public prints, in connection with Col. Benton's letter to the people of Missouri, we find the following description of the country from the sources of the Arkansas to Las Vegas de Santa Clara, in longitude about 113° west. After describing the *Coo-cha-tope* pass, at the head of the valley of the Del Norte, Mr. Leroux says:

"As for the country on each side of the Pass, I will describe it, and on the east side first.

There is a large valley to the east about 50 or 60 miles wide, and near 100 miles long, reaching from the Coo-cha-tope to the Taos settlements, at the Little Colorado. The Del Norte runs through this valley, which is the widest and best valley in all New Mexico, and can hold more people, than all N. Mexico besides. It is all prairie except on the creeks, and on the river, and on the mountain sides, which are well wooded. It is a rich soil and covered with good grass, and wooded on all the streams. The Spaniards called it El Valle de San Luis, and it was formerly famous for wild horses and buffalo; and ever since Taos was settled by the Spaniards, the inhabitants drove their sheep and cattle there to winter. Before the Utah Indians became so bad, the stock, as many as 50,000 or 60,000 head of sheep and cattle, have been driven there to winter, which they did well, feeding on the grass during the day, and sheltering in the woods about the shepherd's camp at night. Most of the winter there is no snow along the foot of the mountain on the north side of this valley, being sheltered from the north and open to the sun to the south. The United States have established a military post in this valley, not far from the Pass of El Sangre de Christo, and about two hundred families have gone there to live, chiefly near the Fort, and raised crops there last year; and now that they have protection, the valley will soon be all settled, and will be the biggest and best part of New Mexico. About three hundred families more were preparing to move there. The post is called Fort Massachusetts.

This valley has several passes through the Sierra Blanca into the prairie country on the Upper Arkansas, and Kanzas, the best of which is called El Sangre de Christo, at the head of the little streams called Cuebadas, which fall into the Huerfano, a small river falling into the Arkansas, not far from Bent's Fort. It is a

good pass, and Bent and St. Vrain's wagons have passed through it, and it is passable the worst of winters; for Col. Beale's dragoons passed through it the same winter, and nearly the same time, that Col. Fremont went through another Pass further West. The distance through these Passes is not more than five miles. This is the description of the country on the east side of the Coo-cha-tope Pass.

On the west side of the Pass, the country opens out broad and good for settlements and for roads, and is the best watered country I ever saw out to the Wahsatch Mountains and to Las Vegas de Santa Clara. After that the water and grass become scarce, and the land poor, and it is called a desert, though travellers find camping grounds every night; and the great cavalcades of many thousand head of horses from California to New Mexico annually passed along it. After you go through the Pass at the head of the Del Norte, there are many trails bearing southwest towards the great Spanish trail by Abiquiu, which they join in the forks of the Grand river and Green river, (forks of the Great Colorado of the West,) where it is a great beaten road, easy to follow day or night. The country is wooded on the streams with prairies between, and streams every three or five miles, as the great Colora do here gathers its head waters from the Wah-satch and Rocky Mountain ranges, which covered all over with snow in the winter, and have snow upon their tops in the summer, which sends down so much water, and cool, clear and good. And this is the case generally out to the Wah-satch Mountains and Las Vegas de Santa Clara—a distance of nearly five hundred miles from the head of the Del Norte. Wagons can now travel this route to California, and have done it. In the year 1837, two families named Sloover and Pope, went from Taos that way.

Col. Fremont was looking for the Coo-cha-tope Pass in the winter of 1848–49, and was near enough to have seen it, if it had not been hid by the lapping of the mountains, when his guide led him off into the mountains, instead of keeping up the dry valley, which he wished to do, and which would have taken him through easy. It was the worst winter for snow, but we could travel all the time in the valleys and passes. I was below him on the waters of the Arkansas at the same time, acting as guide to Col. Beale, who was out after the Apache Indians with a detachment of dragoons, and we heard of him at the Pueblo's. He went as high as Hard Scrabble and got corn before he crossed into the valley of San Luis, and we got corn at the Greenhorn Pueblo on the San Carlos creek, and about fifty or sixty miles below him; and heard that he had passed along, and supposed that he had gone through, and knew no better till he had got back to Taos, when I told him how near he had been to the place he was looking for. We passed with the dragoons through the Pass El Sangre de Christo, (Blood

of Christ,) and got through easy; and that was the dead of winter, and greatest snow we ever had.

There is a way also up the Arkansas to get to the waters of the Great Colorado. It is by Bent's Fort, by the Pueblo's and Hard Scrabble, (at all which places corn and vegetables are raised,) and Withams' fishery, and at the head of the river, leaving the Three Parks to the north. Horsemen and stock can go that way. Maxwell, of Taos, drove out between four and five thousand head of sheep and cattle last summer, intending to take them to California, but went to the Great Salt Lake, and sold them there.

A waggon can now go from Missouri to California through the Coo-cha-tope Pass without crossing any mountain but the Sierra Blanca, (and there have the choice of three good passes,) and without crossing any swamp or large river, and nearly on a straight line all the way, only bearing a little south. And supplies of grain and cattle can be had from the Pueblo's on the Upper Arkansas, and also from the Mexicans at Ojo San Jose, and at their settlement on the Nicollet river, and at Las Vegas de Santa Clara.

I have been from New Mexico to California four times, viz: the way I guided Col. Cooke, the way I guided Capt. Sitgreaves, and the Salinas route, and the Abiquiu route; and of the four the one I guided Capt. Sitgreaves is, as I informed Mr. Seward, the best and shortest from Santa Fe or Albuquerque: but from places further north, and especially from Missouri, the Coo-cha-tope Pass is best and shortest; and had most water, grass, wood, and good land on it; and has most snow, but not enough to prevent winter travelling; so that when there is much snow in the trail by Abiquiu, people from Taos go that way, as I have already said. The snow in that country is dry, and the mocassins that we wear do not get damp or wet.

And being asked by Col. Benton to state the best way from Missouri to California, I answer: Start as the people now do, going to N. Mexico, from the frontier of the State at Kansas or Independence, and for *summer* travelling go through the prairies up towards Bent's Fort, and up the Huerfano to the Pass El Sangre de Christo; then out by the Coo-cha-tope Pass, following a trail to the great Spanish trail. The *winter* travel would be to start from the same point, but follow the Kansas river valley for the sake of the wood, and when that gives out cross to the Arkansas, which is not far off, and level between, and follow that up for wood. The prairies is the way in the *summer*, but *winter* travelling must have the protection of woods and timber against snow storms. And every thing that I tell I can show, and would undertake to guide a party safe through with wagons now."

So far from being a desert, it is obvious from these accounts that a large portion of the country from the western boundary of Missouri to Las Vegas de Santa Clara, a distance of more than

one thousand miles, is highly favorable to pursuits strictly agricultural, and that every part of it affords rich pasturage for stock. This belt, lying between thirty-seven and forty and a half degrees of north latitude, ranges with the valley of the Ohio, and would be capable, were it settled and its resources developed, of supporting a railroad running through its center, with profit to stockholders even without the commerce and travel between the Mississippi and the Pacific. But at present the rich and beautiful valleys of the Kansas and Colorado are forbidden ground: American citizens have no right to cultivate the soil or pasture their flocks on their green meadows.

Nothing but ignorance in respect to the value of the country, could for so long a time have prevented the American people from urging the General Government to extinguish the Indian claim to the valley of the Kansas, and to organize one or more territorial governments between the Western States and the Rocky Mountains. Many thousands emigrate annually to the shores of the Pacific, leaving a country behind them far more to be desired than California with all its golden sands: a country where the rewards of labor would be more certain, and the temptations of vice far less dangerous. Besides, we need a pastoral population, possessing the honest simplicity, patience and patriotism, which have always distinguished its character in all countries, since the days of the patriarchs. Such a population occupying the central portion of the Union, would tend to modify that restless spirit which urges our people to sacrifice physical and social comforts in the pursuit of wealth. It would operate as a check to the disorganizing schemes of designing men, and give consistency and permanency to our institutions.

We rejoice that Congress, at the close of its last session, made an appropriation for the purpose of procuring the relinquishment of the Indian claim to the country west of Missouri and Iowa: a measure which entitles that body to the thanks of the nation; and if carried out in good faith and with promptness by the Executive Department, we trust another year will not elapse before the rich and beautiful valley of the Kansas will be opened to the settlement of a race hitherto excluded from its enjoyment.

The establishment of one or more territorial governments on the eastern slope of the Rocky Mountains, a modification of the laws relating to the disposition of the public domain, and the construc-

tion of a railway from the Mississippi to the Pacific ocean, are kindred measures deeply involving the interests and prosperity of every part of the Union. By the border States, these measures should be regarded as paramount to all others which are likely to come before the next Congress. We have a new administration. There are before us several months of vacation to be followed by the long session of Congress. The time is highly auspicious for the discussion of public measures, and we trust that the press and the people will not permit it to pass without improvement.

Much has already been achieved for Western States, and it affords us a high degree of pleasure to record the fact that the thirty-second Congress evinced a disposition more favorable to western measures than has been manifested by the National Legislature for many years. The appropriation for the improvement of western rivers, the grants of land to Missouri and Arkansas to aid in the construction of railroads, and the appropriations for the extinguishment of the Indian claim to the country west of Missouri and Iowa, and for exploring the country in search of a railroad route to the Pacific ocean, authorize the hope that the people of the West will have less cause hereafter to complain of partial legislation in favor of the Eastern States. But it is to be observed that the initiatory step only has been taken in respect to these important measures: the policy which they indicate may yet be abandoned, unless, as in the last Congress, the western delegation, prompted and sustained by their constituents, stand firm and united in support of western interests.

The last democratic administration was signalized by the acquisition of California and New Mexico: during its term these extensive territories were *annexed* to the United States; but the more glorious achievment of uniting them by the means of a railroad and continuous chain of settlements was reserved for the present dynasty. The party in power will stultify itself and be compelled to yield its authority to other hands, if, appalled by the grandeur of this brilliant enterprise, it fails to undertake or accomplish a work so necessary to the convenience and welfare of the nation.

A railroad from the Mississippi to the Pacific will be the means of establishing a branch of industry in the great central region of the continent, which will add more to the wealth and happiness of the American people than all the boasted commerce of the East added to the gold of California.

But besides being the most extensive sheep walk upon the globe, there are portions of this region which rival, and perhaps excel the most favored districts of Europe or Asia in the production of the grape: an important element of national wealth and individual comfort.

Were this extensive country inhabited by a civilized race, and its natural resources improved, the people of the great cities of the Mississippi valley, travelling by railroad, might reach, in one day, a region highly conducive to health and longevity—a land of flocks and vineyards, of herdsmen and vine-dressers, diversified by snow-capped mountains, blooming vallies and sky-bound meadows—enlivened by the flocks of a thousand folds. A land where man will attain his full stature, and his mind receiving impressions from the beauty and grandeur of the scenery, he will rise to the highest degree in the scale of humanity.

Article II.

The following address, delivered by Judge Meeker at a railroad meeting of the citizens of Minnesota Territory, is replete with comprehensive and enlightened views respecting the commercial and social relations of the Valley of the Mississippi.

The author is entitled to the thanks of the people of this entire region for a document so well calculated to give a true direction to public improvement and commerce in the valley States. We copy from the "*St. Anthony Express.*"—Eds.

Speech of Judge Meeker of Minnesota on Railroads between the North and the South.

Judge Meeker spoke as follows, on being unanimously called to the Chair, at the late Territorial Railroad Meeting, held at St. Anthony:

I feel grateful to you, my fellow-citizens, for the honor and confidence implied, in being called to preside on this occasion. Since my connection with the Judiciary of Minnesota which is now nearly four years, I have, from motives of official propriety alone, studiously avoided all public gatherings that could be tortured into partisan or factional assemblages—and have strictly pursued that even tenor of my way without turning to the right or left; and this I have resolved shall be the order of my march, till that connection shall cease. Nevertheless, the business that has convened us this evening rises so far above all party, sectional or sectarian considerations, that it were well for *every* man in Minnesota to

be with us, whatever may be his local interest, the complexion of his politics, or faith. A scheme has been proposed to unite Minnesota with Louisiana by a grand Railroad, west of the Mississipi pi, extending from the heart of our Territory, to the great Southern metropolis, and connecting the extreme Northwest with the extreme Southwest of our wide spanned Republic, by another and a new artery of trade and intercourse, safer, more certain and constant than even the Great Father of Waters. It is impossible for the mind to comprehend all the untold advantages of this enterprise that will virtually annihilate climate and distance, and astonish the world by its wonderful and magical development of the rich virgin valleys it will penetrate. To Minnesota, it promises everything; the conquest of distance which now makes her almost inapproachable for half the year; reciprocal commerce, without which it were far better to have none at all; the best market for her natural resources and peculiar products; the speedy settlement and population of the two great valleys, along which it will run; and a rapid rise in real estate throughout the Territory, by bringing its products into equal and cheap competition with those of older States. To reap the highest advantages possible from this stupendous project, and to secure the greatest amount of good to the greatest number, should be the cardinal object with the friends of this Road in Minnesota. It should be located, therefore, with a reference to our future permanent settlements, and the great body of fertile land of the Territory, whose value will consist principally in the facilities afforded for exportation and commerce. As the Mississippi furnishes these facilities from this place southward, and the towns and cities on its banks, are already blessed with the means to market and trade, sheer justice to the settlements on the St. Peters and Blue Earth, would seem to demand that the main trunk should pass through them, as it is unquestionably the most feasible and direct route. The same remarks are applicable to the Des Moines Valley in Iowa. The advantages of this route seem a thousand fold over those of any other. It confines the business of this thoroughfare north of Iowa, thus rendered central, exclusively to Minnesota; and every town and settlement from her centre to her borders will be within the reach of its beneficial influence. Were it to hug the bluffs of ths Mississippi, one-half at least of all its advantages would be transferred to the adjoining State, and proportionably lost to our people; nor would it much matter on which side of that river it ran to work these fatal results. Besides, the further the main trunk of this road bears from the Mississippi, the greater extent of country will be rendered available to settlement, agriculture and commerce; and it would have all the glorious effects of another Mississippi, draining new and more fertile regions of their productions and trade.

It has been wisely suggested, therefore, that this road, on leaving the Missouri line, should pass up the Des Moines Valley,

thence into the Blue Earth basin, whose sources interchange with the Des Moines in latitude about 43° N., thence to Traverse des Sioux, just below the mouth of the Blue Earth, which is situated on the left bank of the St. Peters, or Minnesota River—thence with this river to some point near its confluence with the Mississippi, most practicable to cross the latter, and in a line to Lake Superior. Whether that point is at the Falls of St. Anthony, where nature has full half bridged this mighty River, and where our Legislature has lately granted a charter to an efficient Company to complete what nature has thus begun—or shall be below, or above, will of course depend upon the action of those who will have the location of the road.

It is conceded that the valley or basin of the Des Moines, which extends entirely across Iowa, nearly equally dividing it into eastern and western sections, contains the largest body of rich land and mineral wealth in that State. This whole region of country is virtually shut out from the commerce and trade of the Mississippi, as its average distance from that river cannot be less than a hundred miles. As a general thing, that region is young, and the tide of immigration is just beginning to set in that direction. The Blue Earth, some of whose sources are even south of the Des Moines, holds an almost direct northern course to the St. Peters Valley, and flows through a country unsurpassed on this continent, by the fertility and wealth of its soil, and the grandeur and greatness of its primitive forests. Near the mouth of this river, where it empties into the St. Peters (Minnesota), is the newly established town of Traverse des Sioux, destined to be an important place, situated as it is just below the mouth of the Blue Earth, and is the point first reached by the settlers of Pembina, and the inhabitants of Selkirk city, (which has a population of some 8,000) on their annual trip to St. Anthony and St. Paul, with their caravans of traders and merchants. The last of these mighty valleys, is that of the St. Peters, which bears a little to the Northeast, till it reaches the Mississippi at a point midway between St. Anthony and St. Paul, a distance of some hundred miles north of Traverse des Sioux. This whole valley is represented as the paradise of the Northwest, rich in timber land and prairie, and will ere long, contain the great bulk of our farming population. Already have our people reached the mouth of the Blue Earth, with their towns and settlements, and will soon ascend its sources, near the head waters of the Des Moines.

To those who are interested in the settlement and prosperity of the Northwest, the important question is now presented: where shall these rich and inexhaustible valleys, capable of feeding and clothing 50,000,000 of souls, destined to be the most densely settled part of the West—and to be peopled by a hardy race of independent and free laborers, find an outlet for their surplus products? In what market will their industrial habits meet with

the surest rewards? Where will their trade and commerce find the most reciprocity? Whence are they to derive their supplies in these articles of luxury, or the necessaries of life that now enter so widely into the consumption of civilized people?

A few short years ago, these had been vain inquiries for a statesman or a patriot to propound; or rather nature herself would have answered them in language not to be gainsayed, or questioned—"follow," she would have said, "the course of your lakes and rivers, no matter how zig zag, or what scopes of country they traverse, you must go where they go, and stop where they stop. If your market is South, and you reside on the Red River, North, take your produce down that stream to Hudson's Bay, then South by the Ocean; if you reside on the head waters of the Blue Earth, 300 miles south of this, and your market is at St. Louis or New-Orleans, take your surplus up that river 200 miles north, thence to Mendota or St. Paul, 100 miles more, in the same direction to get to a *starting point;* if your home is on the Des Moines, stay there, and eat, drink and wear out all you raise, rather than incur the expense of twice its value in getting it to market. But that day is passed, and we are no longer dependent upon time or tide, wind or water. The *head of navigation too, will soon be an obsolete idea*, and cease to be an object of inquiry, or contestation. The all important questions already are, where is our best market, and where is it our interest as a people to trade; for this is a matter of dollars and cents after all.

These are mere propositions of domestic economy, and depend for their solution upon the peculiar circumstances of the State or people, whose interests or happiness are involved. The proper answer of such questions will always depend upon what a people have to export or buy.

The vast pine forests on the Upper Mississippi, the St. Croix, and their tributaries, are a rich and lasting legacy of Providence to our people, and, when considered in connection with the fact, that all the States south of us, bordering on the Mississippi, are entirely destitute of this essential material so necessary in States comparatively new, and whose towns and cities have yet to be built, must be viewed by every intelligent man as of far more value to Minnesota than mines of the precious metals, since the valley States can be furnished by her alone, with this otherwise scarce and costly commodity. The value of this staple to our people is greatly enhanced by the vast amount of water power in the Territory, which renders it easy to convert logs into boards, shingles and wooden ware of every description. This is the leading, *peculiar* resource of Minnesota, and that her market for this article of wealth is South, is a necessary deduction from the premises, and extends from St. Anthony to St. Louis, with prices always increasing as you descend the valley. Does New England, New-York or any other Eastern State buy a log, a board or a shingle

of us? Would then a Railroad in that direction, say to Bangor, enhance the value or importance of this commodity? If this would not be taking coal to New Castle, I can not comprehend what would. Whilst it would not diminish the quantity now required immediately on the Mississippi, the construction of the Minnesota and Louisiana Railroad, along the connected valleys of the St. Peters, Blue Earth and Des Moines rivers, would perhaps quadruple the demand, and increase the price—since towns, and cities and settlements, will, in the very nature of things, follow the route, and can depend upon no other source to supply them.

The fisheries of our Northern Lakes, and especially the white fisheries of Lake Superior and Leech Lakes, are a source of future wealth, not yet much counted on, and only need a connection with this great valley by Railroad or otherwise, to elicit the inexhaustible stores of wealth, now in a great measure inaccessible or hid. With such a connection, this Territory would reap the principal benefit of this future important item of commerce—and its best market would be in a descending line with the Mississippi, and the Minnesota and Louisiana Railroad; for it would be absurd to suppose that we could supply the Lake States East of us, with this valuable fish to which they will severally have access when the St. Mary Canal is finished.

The great body of the Lake Superior Copper region, is in Minnesota, and though as yet, it is owned by the Chippewas, it is believed that the purchase of this important country will take place at an early day of the incoming Administration. These mines are no doubt the richest in America, and can be reached by a Railroad not much exceeding one hundred miles from this place, through a region perfectly practicable for such an enterprise. With such a road, we might draw to the heart of our Territory the wealth accruing from the mining and manufacture of this important metal into brass and copper fabrics, and our best market for this, and for whatever else we can manufacture is *South*. It is the market now sought by the Old States, and by the Old World —and *we are at the head of it.*

From the peculiar circumstances and position of the Territory, Agriculture must ever give profitable employment to a large portion of our people. This will be principally confined to the valleys of the Upper Mississippi and St. Croix, and to the great basin of the St. Peters and Blue Earth. The travel along the former, the outfits and demands in the pineries, and the mineral districts North, will always furnish the best of markets to those who settle there. But the great bulk of our farmers will ultimately settle on the rich and fertile lands of the Minnesota and Blue Earth. And though for some years, the Territory will furnish the best market for *their* produce, yet when the country is settled and its agricultural resources called forth, their surplus products can find but our market—that will be south of Iowa; for surely no one will ex-

pect it in that State, Illinois or Wisconsin, with whom we could hardly compete in a pursuit in which their soil, *in the absence of mineral and water power*, fits them to take the lead. The great question will then be, how to get their crops and produce to market. Before the invention of Railroads, there could have been but one way to answer this all-important question—and that answer would have directed the settlers on the Blue Earth, to descend their river some 200 miles, which pursues a northern course to the St. Peters, thence more than 100 miles further in the same direction to St. Paul. Thus travelling 300 miles out of the way to get to a starting point; whereas in fact they were that much nearer their destination before they moved. Nay, were the Minnesota and Louisiana Railroad completed there, the same distance south only, in one fifth of the time, would place them at their journey's end.

In regard to our imports, or the articles of prime necessity, as coffee, rice, sugar and molasses, and all the productions of the tropics, little less than essential, that enter so largely into the consumption of civilized man—they, of course, come cheapest by coming *directly* from the South. But is this all? And are we to aspire to nothing beyond a mere subsistence as a Territory or State? As a people like our fathers, educated to industrial habits, having their energy, their enterprise and their hardihood, with a better climate, and far greater natural resources, and more hydraulic power adapted to mechanical and manufacturing purposes, than all New England together, are *we* to be contented with our physical wealth, and to be satisfied with finding the best market for it, or in asking the question, where we shall purchase what, as a community, we may stand in need of? When situated as we are, at the head of the Mighty Basin of the Mississippi, we have a descending market of more than 2,000 miles. The Louisiana and Minnesota Railroad would result in making us the New-England of the Northwest—will give us wealth and power, and political consequence, advance us to a kind of mediatorial position between the East and the South. With one hand we will lay hold on the South, and with the other stretching Northward and Eastward—hug the two distant extremes in the sacred embrace of perpetual Union. To the East we would furnish a ready and profitable investment of her surplus labor and capital, whilst we would supply the other, with all the fabrics of mechanical industry and ingenuity.

It is a singular fact that by the order of Providence most of the precious metals that have for ages constituted the currency of the commercial world, as well as the most valuable products of our globe, are found in low latitudes; but it is equally singular that the superior industry, energy and necessity of higher and more inhospitable climates have controlled and carried on their commerce, and have amassed and are amassing the greatest wealth.

This explains the fact that the richest and most commercial cities of the world are all above 37° N. latitude, as Havre and Paris, Amsterdam and Leipsic, London and Liverpool, New York and Boston: whilst cotton and coffee, sugar and rice, the main elements of modern commercial wealth, are found to grow only many degrees below. It also explains the fact that whilst the South is rich in the costliest productions of the earth and in mines of gold and silver, every great improvement of the South that requires capital to push it forward, rests in abeyance till the North has taken the stock.

From these hurried remarks it is plain that a people like ours, hardy and industrious, enjoying the advantages of a vigorous and buoyant climate and numerous rivers, adapted to mechanical and manufacturing purposes, would by a direct and speedy communication both ways with the South, be destined to wealth and commercial importance. Such has been the cause of the successful career of New England. Destitute as she is of every natural source of wealth in soil or mineral, dependent upon the South for her corn and cotton, and upon the West for her flour and wool, she yet with every disadvantage against her, furnishes both with fabrics to wear and for use at an enormous profit. She is indeed the great workshop of the South, but it is her *Ocean Highway* to that section of the Union that has given her, her position and her present wealth. Great Britain is another remarkable illustration of this very subject. Every point on the coast of England is the *terminus* of a road directly leading to the rich harvests of gold indigenous to the indolent and sunny South. This is the true secret of the wealth she has hoarded each laborious year for the last two centuries. It is this that has made her the queen of Isles, and mistress of the main. *The North works for the South, and the South enriches the North.* This accounts for the constant tendency to and lasting lodgement of the precious metals in the hands of northern industry and skill. The gold digging of Spain began in the Mother country and Mexico about the time that England was acquiring the rudiments of commerce and manufactures. The latter by these means drew from the former the gold as fast as they acquired it, and by neglecting the arts of peace, and not unfrequently embarking in an expensive war to gratify what had now become a national passion, Spain, the land of gold and vintage, sank into comparative poverty and contempt, whilst Britain, cold and inhospitable, and as the haughty Romans once thought, destitute of every element of wealth, not worthy of conquest, nor even *fit to be a slave of the Eternal City*, by the steady din and diversity of her industry, has attained a grandeur of power and glory never reached by Spain in the proudest days of her chivalry.

High and inhospitable as is her latitude, and far removed from the luscious fruits and luxuries of the tropics, and the more sub-

stantial and valuable necessaries of the South, as coffee, cotton, rice and sugar, England yet keeps her market places redundant with these, by the simple exchange of the fabrics of her national industry with an excess in her favor annually of many hundred millions of pounds sterling. Thus what is peculiar to the gorgeous East or the golden South is by the magic action of British labor diffused through every vein of the empire; all of which has been *stimulated and sustained by the Ocean Road she enjoys to these countries.* Give us a Railroad to New Orleans, the very heart and centre of the West India and Southern trade, and the great cotton metropolis of this continent, and what would not a daily and *direct* intercourse there, do for the Northeast, and especially for Minnesota, so admirably adapted by her position and water power, by her people, soil and climate, and by her fine natural resources, especially her wood growing, to every species of mechanical and manufacturing investment! Would not New England *capital* by millions, and *operatives*, by towns and even cities, *decamp* and fly to this land of promise, and reap another harvest of wealth in this new field of labor and enterprise? They could here find their market and provisions where they find the raw materials for manufacture, in the great basin of the Mississippi.

The *East* will undoubtedly soon reach us with Roads they are stretching West and Northwest; but they will scarcely serve any other purpose, so far as our interests as a people are concerned, than to transmit us immigrants, operatives and capital, should this grand connection with the South succeed. It would in effect transplant New England to a better soil and a better climate where her characteristic energy, industry and skill would reap golden harvests in new fields of fame and fortune.

The advantages in this case would all be on our side since there is not and never can be any mutuality or reciprocity in our *trade* with the East. The commerce of Northern States with one another is essentially limited and unprofitable, and this for obvious reasons. Enjoying the same climate, soil and manufacturing facilities, producing the same grains and vegetables, and peopled by the same hardy and enterprising inhabitants, the usual incentives to commerce and exchange are wanting. It would be all the same if a farmer were to seek, at great cost and expense, a market for his productions among farmers, and mechanics and manufacturers were to go in search of a place to vend their fabrics among their own classes. A canal or railroad from our pineries to Bangor in Maine, if it were practicable, or a similar connection between St. Anthony and Lowell, or between our rich lands and those of Wisconsin, Michigan and New York, were equally absurd, in a commercial point of view. Let no one, however, charge me with a want of filial affection to my native New England. I love her people, her institutions, her very hills, rocks and valleys; but I

love them as a child should love his parent: while my attachment for Minnesota is that, which that same child might, consistently, cherish for his *sweet-heart.*

The friends of the Louisiana and Minnesota Railroad, are not moving too early in the matter. *Now* the right of way along the route, a very considerable item of costs in the construction of Railroads in most of the States, is owned by the Government, and can be granted without prejudice to private rights, as can also the public lands contiguous, not only without loss to any person, but with great profit to the National Treasury, in stimulating the sale, and enhancing the value of this inexhaustible source of revenue.

Again, the mere agitation of this subject, will throw a chain of settlements along the whole line, in anticipation of such a national thoroughfare; and if it be necessary that the whole route should be peopled, and thickly settled with human beings, ere much be done, this *seeming* premature canvassing of the scheme, will in my judgment, be the most efficient means of obtaining *that* object.

But I have already detained you too long in these preliminary remarks. I can not, however, conclude, without here remarking, that this is the first great Road that has ever been projected, to unite the extreme North with the extreme South, and that directly. Most of the great improvements of the country, have been to band together the North with the North, and the South with the South, local in their advantages, and sectional in their tendency, always working, however, one uniform result, the building up of the North, with counter efforts to build up the South. This has always had the effect to widen the breach naturally generated by a difference of latitude, and fed by political animosities. *This* road like the Great Father of Waters, parallel with which it is destined to run, will be found to be a great *liberalizer.* It will soften the prejudices, and harmonize the sentiments of the two sections. It will be a grand *compromise indeed*, not depending for its existence on the reluctant and ungenial support of legal coercion, but permanent and lasting, because it will rest upon the reciprocal trade and commerce, the social and political intercourse of the two extremes of the Republic. It will be worth a thousand fold its cost in the influence it will exert to preserve the Union. It will be an *iron* argument in favor of the immortality of our Government, weighing more than all that has ever been written, printed or spoken, on that vital subject.

ARTICLE III.

Climate of California.

BY GEO. M. WILLING, M. D.

The climate of California may be divided into three seasons:

1st. That season of the year which is called the wet or rainy season.

2d. The season of the dews.

3d. The dry season in which neither rain or dew falls.

The first generally commences about the 1st of December, and terminates about the 15th of April. The second season embraces that part of the year wherein the evaporation is the greatest, and the moisture of the earth is converted into dews. This season generally lasts from one month to six weeks. The dry season includes the summer months, and continues until the rains set in.

The peculiar influence these seasons exert over the climate of California, imparts a diversity of atmospheres which, when analyzed, prove to be the source from whence arises many of the present difficulties which exist in that country. Climate is defined to be the prevailing constitution of the atmosphere, relative to heat, wind and moisture peculiar to any region. California may be said to contain as many different changes of climate within its confines as can be found in any region south of lat. 42°, north, to 23° south latitude.

Dr. Henry, in his experimental chemistry, gives the movement of caloric by radiation to be the same through all the different aeriform bodies, though the gases differ from each other in their conducting power.

The number of different bodies having different temperatures, surrounding each other, from which radiation takes place, bears some proportion to the quantity of heat radiated to the excess of the temperature of the hot body, above that of the surrounding medium, and according to the theory of M. Prevost, may all be considered as radiating surfaces,—yet the hot ones will radiate more than they receive, while the cold ones will receive more than they radiate.

This peculiar phenomenon is characterized throughout the whole State. Although the process of radiation is continually going on, still the climate is more or less affected by these circumstances, and frequently changed during the summer months, in several localities, owing to the frigid parts in the vicinity of a warmer surface. Italy, with her genial clime, can not boast of a more salubrious atmosphere than distinguishes the fertile valleys and other habitable parts of California.

Owing to the present arrangement of the seasons, the atmosphere is divided into two kinds: humid and dry. It may be said, however, that the coast-wind is at all seasons of the year more or less humid. San Francisco, during the summer months, is exposed to damp and chilly winds, whilst the winter brings a mild and wholesome season, with a balmy atmosphere. The interior does not suffer from this influence. The humid atmosphere occupies that part of the year in which the rains predominate, and the season of the dews. The winds generally prevail during the summer S. S. E., in the interior, and on the coast the prevailing sea breezes constitute the chief winds. The climate, like other countries, may, in process of time, become more genial to agricultural pursuits, and the health of those who have or may hereafter make this State the home of their adoption.

In support of this position, we have only to enumerate such historical facts as are within our reach.

"The climates of European countries were more severe in ancient times than they are at present. Caesar informs us that the vine could not be cultivated in Gaul on account of the winter cold. The reindeer, now only found in the zone of Lapland, once inhabited the Pyrenees; the Tiber was frozen over, and the country surrounding Rome, was covered with snow several weeks together, which rarely happens in our times. The Rhine and the Danube, in the reign of Augustus, were generally frozen over, for several months of the year. The Barbarians who overran the Roman Empire, a few centuries afterwards transported their armies and waggons on the ice across these rivers. The improvement which is continually being made in the climate of America, proves that the power of man extends to phenomena, which from the magnitude and variety of their causes seem entirely beyond his control. At Guiana, in South America, within five degrees of the line, the inhabitants living amid immense forests, a century ago, were obliged to alleviate the severity of the cold by evening-fires. Even the duration of the rainy season has been shortened by the clearing of the country, and the warmth is so increased, that fires now would be deemed an inconvenience. It thunders continually in the woods, rarely in the cultivated parts."*

It may be possible that, in the course of time, and the settlement of the country, the habitable portions of California may become in its seasons more regular, and better adapted to agricultural and other pursuits.

The natural formation and position of the Sierra Nevada, will always be sufficient to supply their cloud-capped peaks with mantles of eternal snow, and forever remain the great radiating points in which will be received the greatest amount of heat, thus con-

* See Hooper.

tinually rendering a most essential service to the surrounding country, and the atmosphere still more pleasant and salubrious. Should such changes take place, as history records to Italy, then indeed is California a favored land. Yet drainage of the ground, and the removal of forests, cannot be recorded among the sources of increased warmth of the Italian winter.*

The great body of chemical writers have omitted to notice an astronomical cause of the progressive amelioration of the northern hemisphere. In consequence of the apogee portion of the terrestrial orbit, being contained between our vernal and autumnal equinox, our summer half of the year or the interval which elapses between the sun's crossing the equator in spring and in autumn, is about seven days longer than our winter half year.† Thus giving one reason for the relative changes in the southern hemisphere.

The elevation of the highest peaks of the sierras is about 17,000 feet above the level of the sea. Pleasant or Red Lake about 9,000 feet. Pleasant Valley 3,864 feet, and the nearest habitable point to the mountains. The mean elevation of the sea will range from 100 to 1,700 feet, the mean temperature of the atmosphere from the best calculations, corresponding with the spring water of Fahr. 72°.‡

In most countries, the bodies commonly found in the atmosphere, consists chiefly in three distinct elastic fluids united together by chemical affinity; namely: air, vapor and carbonic acid gas. These may differ in their proportions at different times and different places. The proportion of each is

98.6 air,
1.0 carbon,
0.4 water.‖

Besides these bodies, there are localities in which electricity, the substance of clouds, fogs and mists, descending from the snowy mountains, intermixes with the atmosphere, and thus changes the temperature. The fogs in autumn, on the coast, are checked in their advance to the interior by the coast range; thus leaving the dry atmosphere free from these additions. The atmosphere becomes dry, and the remaining part is composed of nitrogen and oxygen, with only a small portion of carbonic acid gas, less than is found in other countries of the same latitude, and it is a fact worthy of notice in this connection as well as to establish the positive purity of the atmosphere in the interior, that its effect during night as well in the day upon the human body envigorates the system, and is so refreshing that persons prefer sleeping out of their

* Hooper on Climate.
† Vide idem.
‡ Vide Astronomical Report. Fremont. Humboldt.
‖ Hooper on Climate.

houses, without other covering than the broad canopy of heaven. It may be said with certainty that neither koino or idio or vegetable or animal miasmata exist to any extent that would create disease. It will be needless to expatiate further on the qualities of the climate and atmosphere, but we deem it necessary to speak of the influence of the climate over the animal economy. In those sections where there exists an uniform eveness in the atmosphere, the health is good; but it appears from experience that the climate exercises a peculiar influence over the passions and baser parts of our nature. This demoralizing influence, certainly, may be overcome, and in the event of time will be, by the establishment of society. In all warm climates females come to maturity early in life. The little girl at twelve years old, blooms into womanhood at thirteen. It is not uncommon amongst the natives of California to find mothers so young as the age above stated; and indeed instances have occurred at a still earlier period. With all the beauties of California's clime, its breezes fan the passions of the female to such an extent as leads to shame, unless the flame be depressed by the force of intellect and moral courage; while these effects of the climate on the other sex are quite the reverse. The customs of the native Californians, male and female, in dress and habit, contribute no doubt to the development of these appetites; and the manners and customs of the people from the United States, and other countries of a more refined taste, may eventually cure this excess. The voluptuous character of the females of Mexico and other Spanish countries, are marked by these defects, and which I may say arises chiefly from the peculiarity of the atmosphere they happen to reside in.

The action of the atmosphere, then, on the human body, has more than a morbid influence, and as well as being necessary for the support of life, animal and vegetable, it exercises other influences over the system, equal in fact to the morbid qualities which are either extracted from vegetable or animal decomposition. A bright lustre is imparted to the dark eye of the native female, and sparkles with the fire of a burning passion.

There is also another peculiarity in the atmosphere of the mountain region, especially in its influence upon the human body; this property depends chiefly upon a certain chemical influence of the atmosphere inhaled; over the circulating fluids producing paleness and a cadaverous appearance of the skin. This feature, however, may, for the most part, depend on the want of a more generous living, wherein the colouring matter of the blood sustains a loss of nutritive properties. And it may be a fact worthy of notice in this place, that such appearances are only found on those persons who are without domestic relations. That the married life does to some extent give a check upon this peculiarity of the climate, is evident, and it is well known to persons inhabiting the mountain

region, that those who are so fortunate as to have companions of the opposite sex, can readily be pointed out by the appearnce of the skin, and other appearances not connected with the tidy nature of woman— * * * * *

The fruitfulness of all countries do to a certain extent, depend upon the region to which the creative power belongs. The climate of California conduces to this quality, and all animals fecund at earlier periods, than in other countries, and are more prolific.

* * * * * * * *

Before concluding this chapter, I deem it proper to notice the changes produced on the organic functions of the human body. Among these may be classed some of the specific causes of diseases, and the effect of heat upon the constitution. The radiation of heat being greater in some parts than in others, the effect thus produced is different in different regions, as in points where the cold surfaces predominate over the heat of the surrounding medium. The constitutional effects in such parts are not so great; but where the radiating surface gives out an excess of heat always produced by the action of the sun upon a volanic surface, the effect upon the great secretory organs are more or less excited into an unhealthy accumulation of morbid matter. These deleterious effects are seen in the constitution of all thus affected, alike.

Finally the climate with all its variations, compared with other countries, may be considered healthy, pleasant and more agreeable than the climate of any other part of the United States.

The following table shows the latitudes and longitudes of California:

Latitude.	*Longitude.*	*Localities.*
40° 39′ 46″	121°20′42″	Great Boiling Spring.
39 51 13	"	Mouth of Salmon Trout River, and Pyramid Lake.
39 24 16	"	North Pass of the Sierra Nevada.
38 46 58	120 25 57	Rio de los Americanos, at the head.
38 34 42	120 34 20	New Helvetia.
38 08 23	121 23 03	Makelemenes.
38 02 48	121 16 22	Calaveras.
37 42 26	121 07 13	Stanislaus.
37 22 05	120 58 03	Cosumenes.
37 08 00	120 45 22	Joaquin.
36 24 50	119 41 40	Tulares.
35 17 12	118 35 03	Near Pass Creek of the Sierra Nevada.

* Vide Fremont, Humboldt.

By reference to the table on climates, it will be seen that California according to the latitudes and longitudes, has two general climates.

Thus climate may be said to be contained between two parallels, and at a distance from each other, that the longest day in one, differs half an hour from the longest parallel from the other. The days are always 12 hours long at the Equator, and from thence to that parallel of latitude where the days are twelve hours and a half long, is the first climate, from thence to the latitude where the days are thirteen hours long, is the second, and so on to the third, fourth climate, &c. The breadth of these half hour climates decrease as they approach the poles; so that a climate is something less than four miles broad at the polar circles.

The following table gives the increase of days by half hours from 12 to 16 hours, by hours from 16 to 20, by two hours from 20 to 24 hours, and then by a successive increase of a month for the duration of the constant appearance of the sun above the horizon.

TABLE OF CLIMATES.

Climates.	Length of days in hours.	Latitude climates end in.	Breadth of the climate.	Climates.	Length of the days.		Lat. climates end in.	Breadth of the climate.
	12½	7° 48′	7° 48′	XIII	22 hours.		65° 10′	2° 26′
	13	15 36	7 48	XIV	24 "		65 54	00 44
	13½	23 08	7 32		N.Lat.	S. L. Days.		
	14	29 49	6 41					
	14½	35 35	5 46					
VI	15	40 32	4 57	XV	31	30	66 53	00 59
VII	15½	44 42	4 10	XVI	62	60	69 30	2 37
VIII	16	48 15	3 33	XVII	93	89	79 0	3 30
IX	17	53 46	3 81	XVIII	124	120	78 6	5 06
X	18	57 44	3 58	XIX	156	150	84 0	5 44
XI	19	60 39	2 55	XX	188	178	90 0	6 00
XII	20	62 44	1 05					

ARTICLE IV.

Ancient and Modern Highways.

Copy of a letter from the Hon. Richard Rush to the Hon. Thomas H. Benton.

SYDENHAM, NEAR PHILADELPHIA, MARCH 29TH, 1853.

MY DEAR SIR,—Employments in planting and transplanting trees and shrubs upon my grounds, and in such like usual work for a week or two, a species of work, however small the scale of it, not to be postponed at this season of the year, has prevented my earlier acknowledgment of the copy of your interesting letter to the people of Missouri, on the central national highway from the Mississippi to the Pacific, which you had the goodness to send me. In sitting down to acknowledge it now, I do so, not with any the less cordiality and thankfulness, but perhaps more, as the delay has given me more time to think of it. I read the whole pamphlet when it first came, and found it a refreshing as well as instructive pastime. It acts like an intellectual tonic. The statement of Mr. Leroux, with Col. Fremont's letter, made me think the route you recommended is the best, frankly owning that I have had my attention little drawn hitherto to the other routes. But what makes me chiefly and largely your debtor on the occasion, are the parts that follow this statement and letter, good as both of them seem to me to be.

Louis the XIV once asked the Duke of Vivonne, a plump and fine looking gentleman of his Court, what was the benefit of reading? The sprightly duke replied, that it had the same effect upon his mind that his Majesty's partridges had upon his cheeks—made it plump. So, when you burst upon us with the reflections, illustrations, and facts almost astounding, old as they are, when revived and applied in connection with your subject, that are to be seen on page eight, and onward, of your invigorating pamphlet—it plumps up the mind. It rouses it out of the commonplace, lazy thoughts, into which all of us are prone to slide until a strong flapper comes. It fires us with a desire to do great things, by bringing back to our contemplation the great things that have been done.

When you tell us of the city Alexander the Great built to superceed Tyre, the main street of which was five miles long, 1000 feet wide, and a colonaded and covered footway of a hundred feet on each side; when you remind us that the pyramids were standing long before that time; jog our memories with the authentic realities of the vast chain of communication throughout the Roman empire by highways stretching more than four thousand miles in length, going through mountains which they perforated, and crossing the broadest and most rapid streams on bold arches thrown over them—the middle of this grand highway being raised into a terrace commanding the adjacent country, and paved with stone in a manner so solid that parts of it still exist to challenge our curiosity and admiration; when you remind us further, from our own Prescott's glowing pages, that even the Peruvians, before Spain got possession there, had a road from fifteen hundred to two thousand miles long, conducted over pathless sierras buried in snow, with galleries cut for leagues

through the living rock, and over rivers crossed by bridges that swung suspended in the air, and over ravines of hideous depth, which were filled up with solid masonry, besides overcoming other difficulties and obstacles to have appalled the most courageous engineers of modern times—when you carry us back to all these things of the past, it seems to unhinge one's reason. Startling moments come over us. It makes us half afraid lest in our days we have dwindled down to pigmies, become a set of Rip Van Winkles, young Rips and old Rips, all together, with little hope of our ever being wound up to the boldness and grandeur of those old fellows who lived so long before us, and who, if they could revisit the earth, might be very much disposed to laugh at us all. To be serious, let us follow up the matter a little, for it is full of pith.

If the Macedonians, Egyptians, Romans, and even the semi-civilized Peruvians, could do all that you so vividly and pertinently recall, without the steam engine for land or water; or the electric telegraph to let each other know in a twinkling what was going on, or the thousand and one modern inventions in machinery for cheapening and expediting labor and multiplying so prodigiously its products, what would they not have done, if, like ourselves, they had had all these too? It is enough to make us blush to think of it. But rather let us take lessons from it. In the spirit of progress, let us determine to improve in the resolution of our own will. It is never too late to learn, however long we may have been basking in the delusions of already attained perfection. Dr. Fraklin taught himself to write a good hand, which somehow or other had got spoiled, by tasking himself to write a copy every day after he had passed forty; and Cato first learned Greek at sixty. Why should we not wake up to what we are capable of doing, and bestir ourselves accordingly?

In one of your speeches some years ago, I remember that you drew a very striking, very faithful, very beautiful picture of the characteristics of the Dutch; and I remember when I was among them in 1829, to have seen near the sea coast in the neighborhood of Haerlem, carts employed in carting sand to a distance of some miles into the country where the soil consisted only of bog. The sand was shot down into the bog and mixed with it. The same carts returned to the sandy region loaded with bog, which was shot down into the sand, when a similar intermingling took place. By going on with this process for days and weeks a tolerably good soil was the result in both places. Certain vegetable substances would grow in it, when nothing whatever would have grown in the sand or bog by itself. Our Western folks, and the folks on our Atlantic side, too, who own such large bodies of good land to be had cheap, might incline to smile at this Dutch mode of making land; but let us stop a moment. The country which that remarkable people thus and in other ways worked up, exhibited in the sixteenth century an accumulation of more inhabitants in the same space than was known in any other part of Europe, of more industry than was ever found elsewhere, and of more national wealth than was ever possessed by the same number of men. So says Lord Brougham in one of his works; and he says, also, that the splendor and power of Holland were the consequence not of any natural advantages, but a great variety of de-

fects in her climate and situation. These put man upon his own efforts in all manner of ways, open by any possibility in his enterprise and industry.

Now, what would the making of this railroad to the Pacific, which you recommend by such comprehensive, cogent and animating views, —what, in truth would it be, compared to what the Dutch have done, even if, as you intimate, the United States were to employ fifty thousand laborers upon it? Almost as nothing. The Dutch, as Voltaire said of them, *scooped* their country out of the sea. It was like a new creation. Having no country, they made one for themselves that produced the marvels recounted. God and nature gave us a country of immense natural fertility and advantages in all respects, yet, comparatively, we sleep over them, notwithstanding all we say of ourselves, and the many things we have done very honorable to us, as far as we have gone. But nations, like individuals, have duties commensurate with their situation, and it has ever been the maxim of an ambition that aspires to durable superiority, to consider nothing done while anything to which wisdom and honor prompt remains undone. To my vision, as to yours, our inducements to construct this national highway to the Pacific, are urgent. Taken in the high sense of national duty, pride and interest, the inducements are quite mandatory. Not a month, not a day, should be lost towards it. From those to whom much is given, much is expected.

We have got an incalculably important dominion upon the Pacific, and we shall lose it if we do not set about protecting it in earnest. War will come upon us one of these days. It will come sooner or later, from some of the causes which produce all war, while human passions remain; and it may come like a thief in the night. It is no part of prudence, however flattering it may be to our self-complacency, to rest on the belief that other nations are afraid of our power, or depend upon our trade, or dread the overthrow of their kings and emperors by battling with our democracy. You and I think that we are better off than the people of Europe, and that our government is the best; but we cannot be so sure that the Europeans all think so, or if they did, that they could establish democracy on their continent. As sole matter of commercial gain, we should profit a thousand fold from this projected national highway, by its aid in securing to us more promptly the enriching trade to China and India to an extent conceivable only to minds that dwell upon it like yours. And as matter of state policy, for the defence of our Union on its Pacific border, its construction without delay, and in the best possible mode, is recommended by the highest considerations which can appeal to the reason of an enlightened people. Even if we did not reason, the instincts of safety and self-defence ought to rouse us to the work at the earliest periods.

Your admirable letter, for so I must call it, has incited me to remarks which I fear you may deem superfluous. Praying your excuse for so many words on a topic more familiar to you than to me, hoping that your letter will do the good which its intrinsic force ought to claim, and writing in the remembrance of the former friendly intercourse between us, I remain, my dear sir, very faithfully and

Respectfully Yours,

Colonel Benton. RICHARD RUSH.

ARTICLE V.

Natural History.

BIRDS OF THE MISSISSIPPI VALLEY.

BY AN OLD PIONEER.

It is not our purpose to give a full and scientific catalogue of the feathered tribes of this central valley. Some passing notice of such as are the most common, and whose habits and migrations are best known, is all we shall attempt in this article.

Most of the birds of this valley are migratory, under the combined influence of food and climate. In autumn they move southward, and in the spring northward. Some species pass over the whole length of the valley, from the Gulf of Mexico to the Northern Ocean; others pass through a few degrees of latitude; while those who do not make semi-annual migrations, change the irresidence in quest of subsistence.

The Wild Turkey (*meleagris gallepavo*) is an American bird, one of the largest of our forest birds, with brilliant, blackish plumage. It is not found in the extreme north or south, but inhabits the middle portion of this valley. In some sections, before destroyed by the hunter, they were very numerous and easily taken. We have seen, in the early settlements of Missouri, more than one hundred driven out of a single corn field at one time, in the winter season. By obtaining their eggs at the period of incubation, and hatching them under domestic fowls, they are easily domesticated. All our domestic turkies are but varieties produced by cultivating the wild species.

The Prairie Hen or Grouse of Illinois (*tetrao pratensis*) lives all the year and breeds in the middle section of this valley. This is a beautiful bird, nearly the size of the domestic fowl, and hovers about the cornfields of the farmer near the prairies. It is but a few years since they were abundant in the prairies, on both sides of the river, adjacent to St. Louis, but the demand of the eating saloons and the activity of our sportsmen have nearly extinguished the breed within twenty or thirty miles of that city. The Legislature of Illinois, during its late session, have passed an act, to take effect in certain counties in the middle and northern sections of the State, to prevent the destruction of game in the breeding season; but in great kindness to the sportsmen of St. Louis, have left the adjacent counties free to all depredations on wild game.

This bird for a long period harbored on Hempstead Plains, Long Island, and was esteemed a luxury in the New York market. They were called *heath-hen*, and the Legislature in the olden time imposed a fine on all who killed this bird between the months of March and November. By an unlucky mistake in orthography, either by the person who wrote the bill, or the engrossing clerk, it read in the certified and published copies of the laws, "Be it enacted by the people," &c., "that whosoever shall kill any *heathen* on Hempstead Plains, or any part of Long Island, between the first of April and the first of November, shall pay a fine of not less than five nor more than twenty dollars," &c. What added point to the unlucky mistake of the

lack of another (*h*) and a (-) hyphen, was the fact that on Long Island a tribe of Aborigines resided, and the good people became alarmed at the inhuman enactment.

The Wild or Passenger Pigeon (*columba migratoria*) passes over a vast range of country, in search of food, besides flying in autumn to tropical regions, and in summer to the extreme north, as far as the sixtieth degree. This bird pairs off and raises a brood of young nearly every month; sometimes one, and then two at each incubation, so that one pair, if not molested, will raise about twenty in a year. Hence they increase with astounding rapidity. The male takes his turn at incubation, and the eggs are hatched in about sixteen days. They are occasionally seen in immense flocks, to the number of many millions. Their social and gregarious habits incline them to roost together, and these places of resort become known to the inhabitants as "pigeon roosts." When large flocks thus congregate, as the writer has witnessed, they will break the limbs of large forest trees by their weight. In the morning they will fly fifty miles in different and opposite directions for their food, and return at night to the same spot. In these daily migrations the great flock sub-divides into lesser ones, which pass to different points. Wilson, the ornithologist, has given an animating description of a pigeon roost in Kentucky, not far from Shelbyville, which he visited, and which extended north and south a breadth of several miles. It was a place of incubation, where almost every tree bore nests where room could be found on the branches. The pigeons made their first appearance at this great breeding place about the 10th of April, and those that escaped the massacre of the hunters, left that region with their young about the 25th of May. Audubon has confirmed the statements of Wilson as to their countless numbers and gregarious habits. Lawson, in his "Natural History of Carolina," (1714,) records facts which confirm those published by Wilson and Audubon, as to the numbers of these pigeons, declaring that the flocks as they passed obstructed the light of day.

The *fecundity* of the *columbæ* or dove family, suffices to keep up numbers more than adequate to the attacks of hawks and other birds of prey, and the still more sweeping destruction of omnivorous man. Biberg states that if a pair of pigeons hatch nine times a year, the product in four years will be 14,670. The beech nut, a small species of acorn, wheat and buckwheat, are their most favorite articles of food.

The Partridge (*tetrao perdix* of Lin, and *ortix virginiana* of some naturalists,) is not a migratory bird, but is found in all parts of the valley; and does not retire to the wilderness on the approach of man. This is a delicious fowl, and is highly relished by all gourmands. Though it lives and breeds in great numbers in the midst of civilization, yet it is one of the hardest birds to domesticate. Let the eggs be hatched under a domestic fowl, and the young ones will be wild and escape.

Of the aquatic birds, the Wild Goose, (*anser canadensis,*) migrates from the Gulf of Mexico to the sixty-eighth degree of latitude. This fowl is easily domesticated; and amalgamation with the domestic goose improves the breed.

The Great Heron, (*ardea herodius*) goes north to about the fiftieth degree.

The Pelican, (*pelicanus onocratalus*,) with a huge, flaccid, membraneous bag at its throat, in which a load of fish is carried to its young, traverses the length of our river at proper seasons. Though excellent swimmers, these birds are occasionally seen perched on trees. They are exceedingly voracious, and will consume at a meal fish enough for five or six men. It has been domesticated and taught to catch fish for its master. The pelican generally breeds in marshy and remote places, about islands and lakes, and makes its nest of sedge and other aquatic plants; usually lays two eggs, and feeds its young on the fish that have been masticated and prepared in its pouch.

There are several species of Ducks, (*anas*,) found in the waters of the Mississippi and its tributaries. The common wild duck, or mallard, is the original stock of our domesticated ducks, which appears to have been reclaimed and civilized at a very early period. It goes northward during the summer, but many pair remain in our lakes and creeks and breed. Their nests are usually in the most solitary places of a marsh, among coarse grass and weeds, and not easily found. They generally lay from twelve to sixteen eggs, of a dull greenish white.

The Canvass-back Duck, (*annas vallisneria*,) was long known to the epicures before it was described by the naturalist. Wilson first notices it, and named it from the plant on which it feeds in the waters of the Chesapeake Bay. On the Potomac they are called *white backs*, and on James's river, *sheldrakes*. The article in Wilson's Ornithology is very interesting, to which Mr. Ord, his successor, has made a long and valuable addition. It may be examined in the mercantile library of St. Louis. Other species of wild ducks are well known, and need not be noticed in this article. Ducks are found in all the waters of the Mississippi, and its tributaries, to their extreme sources, at the proper season. They retire southward to open water on the approach of severe frosts.

The Rail, (*rallus carolinus*,) ranges from the Gulf to the sixty-second degree.

The Coot, (*fulica Americana*,) extends its migration to the heads of this river.

The Swan, (*cygnus*,) is so nearly allied to the goose and duck in its anatomical structure, that naturalists have had some difficulty in pointing out its distinctive characteristics, though in external appearance it is readily distinguished. The color of the plumage in our country is a pure white, though a species entirely black has been discovered in New Holland. It swims rapidly, and its flight is long and continued. Its strength is such, that no formidable enemy, except the eagle, can master it, and with this king of birds the swan is often victorious. In European and Asiatic countries the swan has been domesticated. The American wild swan passes its summers in the Arctic regions, where it breeds, and on the approach of winter migrates to a southern climate. They are not seen in large numbers.

The birds of prey are not as numerous in this valley as in some countries.

The Bald Eagle, (*falco leucocephalus,*) is found in great numbers along the Upper Mississippi. This bird, in our country, is the most distinguished of the eagle family. It has been adopted as our national symbol. On our "coat of arms" he stands with outspread wings, guarding the shield before him, on which are the stars and stripes that represent the States of the Union, and the motto "*E Pluribus Unum*"—from many are one. This is not a migratory bird, but he is found the whole year in the country he inhabits. The bald eagle will destroy small animals, as lambs, pigs, rabbits, mice, &c., but his favorite food is fish. Yet he has no skill in the piscatory art, but avails himself of his strength and swiftness of wing to compel the fish-hawk to catch his prey. Perched on the dead limb of a gigantic tree on the brink of a river or lake, he lazily looks out for this industrious bird, hovering high in the air, watching the movements of fish in the water. You may see the eye of the eagle brighten, and while he balances himself with half expanded wings on his perch, he is watching intensely the result. Down, swift as an arrow, descends the fish-hawk and plunges in the flood, and in a moment emerges with a fish struggling in his beak, and mounts the air with a scream of exultation. The eagle, now, all animation, launches forth on the chase, and soon gains on the fish-hawk. Each makes the most swiftful evolutions, the one to elude his enemy and preserve his lawful prey, the other to take it. The unincumbered eagle advances near, when the fish-hawk, with the screams of despair, and honest indignation, drops the fish. Poising himself an instant, as if to make sure aim, the eagle descends like a flash of lightning, snatches the fish before it reaches the water, and bears it off to its nest. This bird becomes exceedingly voracious when it has long fasted. He will even attack the vulture, and make it disgorge the putrid carrion it swallowed, and seize this offensive substance before it reaches the ground. The nest of the bald eagle is often found on an inaccessable cliff, or on a lofty tree in a swamp or morass. It is large, and by repairs every season, increases in size. It is formed of large sticks, sods, dry grass and moss. No birds are more industrious and enterprising in providing for their young. Fish and animal food are daily carried to the nest in such quantities, that they lie scattered around, become putrid, and send forth a noisome stench for a great distance. As the king of birds, the eagle was the bird of Jove, the bearer of lightning, and therefore became the symbol of supreme power, or dominion, of nations, princes and armies. The ancient Tuscans once sent to the Romans, as a token of amity and royalty, a sceptre, with an eagle of ivory. From that time the eagle remained one of the principal symbols of the republic, and was retained by the emperors as their symbol of dominion. At first they were of wood, then of silver, with thunderbolts of gold; but under the Cæsars, the figure of the eagle was made of pure gold, without the thunderbolts. Napoleon chose the Roman eagle as his standard. It was gilded, elevated on a long staff. The double-headed eagle became the emblem after the division of the Roman Empire, and it has been the standard through various countries of modern Europe. In all these ancient and European symbols, the eagle was represented as seated with his wings folded, and not hovering as on our national banner.

The Turkey-Buzzard, (*vultur aura*, of Wilson,) is another American bird, and a valuable scavenger in warm climates. It is a harmless and useful bird, and should never be injured or destroyed; for it removes all the putrid carrion within its range. Their sense of smell is very acute, extending for many miles around the carcase. They are very voracious and will gorge themselves with their favorite food until they are scarcely able to fly. If they are frightened, or are hard pushed while in this situation, they will be compelled to disburden themselves. In this sluggish, inactive condition, persons have caught them to their own disadvantage. Some have supposed this was a mode of defense, but it was an effort of nature arising from fright, for which the poor bird should not be held responsible. If they mount the air and fly in this condition, they will disgorge themselves. About ten years since, some negroes in Wilson county, Tenn., saw large drops of blood and pieces of putrid flesh fall from the clouds. They gave the alarm, and many persons, and some men of intelligence, saw unquestionable proof of this strange phenomenon on the leaves, grass and herbage. Portions were gathered, and taken to the late Dr. Troost, in the University of Nashville, who examined the matter, and pronounced it putrid flesh. The public journals sent forth the intelligence of a "shower of flesh and blood." It was not until some time after, and other "showers" had descended in other States, that it became known that a flock of turkey-buzzards made the discharge.

The Owl, (*strix*,) is a nocturnal bird of prey, and whose singularly hoarse voice and "owlish" appearance are well known. Several species inhabit this valley. All are distinguished by large heads, large eyes, looking directly forward, and a ring of fine feathers covering the base of the head and the opening of the ears. They are wholly nocturnal, seeking their prey during the night. The great size of the pupils of their eyes enable them to see well in the dark; but in the day time their sense of sight is imperfect, and they hide themselves in some obscure and dark corner. In their nightly excursions they are depredators on our poultry yards; but, perhaps, they compensate the farmer for the chickens they take, in destroying mice, moles, and other vermin. Before we complain too much of the depredations of the lower order of creation, we should keep a fair account, and ascertain whether they are "more plague than profit." The hearing of the owl is very acute, and their plumage so loose and soft as to enable them to fly without noise, and pounce on their prey at an unexpected moment.

The Great Horned Owl, (*strix Virginiana*,) inhabits most sections of this valley.

The Cinereous Owl, (*S. cinerea*,) is found only in the extreme north.

The Hawk Owl, (*S. funerea*,) is in the northern part of the valley.

The Burrowing Owl, (*S. cunicularia*,) is found near the Rocky Mountains.

The Barn, or common Screech Owl, (*S. flammea*,) is a bird of elegant plumage, and often haunts churches, barns and deserted houses, and leaves its haunts about twilight. It skims along near the ground, explores the country for prey, and returns at daylight.

The Parrakeet, a small species of parrot, (*fulica Americana,*) is a bird of the south, but migrates in summer to about the forty-first degree of latitude. It annoys the orchards by eating the fruit on the trees, but its favorite food is the seeds of the cocklebur, which it devours greedily. And, here again, it may be the farmer receives as much benefit in the destruction of this annoying weed as will compensate the loss of his apples.

There are four species of the Crow family in the United States, but we are not aware of but two species in this valley.

The Fish Crow, (*corvus ossifragus,*) is found about the ocean waters in the Northern States, and Clark's Crow, (*C. Columbianus,*) is found on the waters of the Columbia, in Oregon.

The Raven, (*corvus corax,*) is found from the Tropic of Cancer to the seventieth degree of latitude, and resides through the year in every latitude of this valley south of Leech-lake.

The common Crow, (*corvus corone,*) extends its flight through the valley, and is very annoying to the farmers in corn planting time. A host of these black-coated land pirates, after posting three or four sentinels in conspicuous places, will march regularly along the rows, and pull skillfully at the germinating shoot to obtain the kernel. The Encyclopœdia Americana gives their habits in the following language: "During their breeding season, which is in the spring months, the flocks spread over a great extent of country, and build their nests of small sticks, lined with grass, in lofty trees, choosing the most remote and difficult of approach. The young, generally two in number, until fully fledged, are most solicitously protected by their parents. When the young crows first begin to receive lessons in flying, nothing is more remarkable and affecting than the efforts made to preserve them by the parents, when a gunner approaches the vicinity. Every artifice is employed to call attention away from the young, which seem to comprehend the directions or calls of their parents, and remain perfectly silent and motionless. In the mean time while the father and mother fly towards the gunner, taking care not to remain an instant in one place, and, by the most vociferous outcries, deprecate his cruelty. These efforts being continued, their voluntary exposure, and the eagerness with which they fly about a particular spot, are almost always successful in withdrawing the sportsman from the place where the young actually are. As soon as they have succeeded in leading him to a sufficient distance, they cease their accents of distress, fly a little further from their young, and from a lofty perch, which enables them to watch all around, utter an occasional cry, which one may readily imagine to be intended for the direction and encouragement of their offspring."

The term Blackbird is a trivial name, applied to birds of distinct genera and different species. It properly belongs to the genus *quiscalus.* The true blackbirds have a rich, glossy black, with purple, or ferruginous reflections. All the blackbirds are gregarious and migratory, diffusing themselves in vast flocks towards the north as spring opens, and return southward as the cold season approaches. There are three species of the proper blackbird in this valley. The Great Crow Blackbird, (*quiscalus major,*) is the largest.

The Rusty Grakle, or Blackbird, extends its migrations to the Arctic Circle, where it breeds. The flocks reach the vicinity of Hudson's Bay in June, as soon as the ground is sufficiently thawed to enable them to dig worms and grubs, on which they feed. They sing beautifully during breeding time, until they have ceased laying. They are seen in this region in large flocks in April, as they journey northward, and again in September on their return.

The Purple Grakle' or common Blackbird, (*Q. versicolor* of Viel,) is the most notorious amongst farmers for his depredations. They come from the south to this vicinity about the first of April, and are seen in small flocks about swamps, meadows and ploughed fields. Let them alone, now, for they are destroying the *larvæ* of the cutworm and other destructive insects. But when the green blades of the young corn put forth, look out for the ravages of this bird. Put up "scare crows," and drive them from the corn, for the vast numbers of insects and worms they destroy will amply repay the farmer for this extra trouble. In autumn they congregate in vast flocks, and are sometimes quite destructive on the ears of corn in the field before it is hard.

The red-winged black-bird is an oriole, and does not belong to the family of blackbirds. The orioles are a family of birds exclusively American, and are found at the proper season in all parts of the U. S. They are known by the richness of their plumage. The colors are brilliant, having black, blue, purple, orange, yellow and red. The red-winged blackbird (*icterus phoeniceus*) is known in this valley for his predatory habits. The male is black, with brilliant red spots on each wing. The female is blackish, varied with whitish stripes. The Baltimore bird (*icterus Baltimore*,) has a beautiful black and orange plumage, and is one of the most noted of the oriole family. Its nest is curiously fastened with strings of hemp or flax to the forked twigs of trees, where it hangs safe from the depredation of boys who delight in robbing birds' nests. It is known in some parts as the orchard bird. The yellow-headed oriole (*I. Xanthocephalus*,) is black, with head, neck and breast a bright yellow. The female is a dark brown, throat whitish, and a yellow spot on its breast.

The cow-bird (*I. pecoris*,) follows cattle, and lights on their backs to obtain the *larvae* of the large flies which hatch under their skin. The male is a glossy black, and the female a sooty brown.

The Woodcock (*Rusticula minor*,) is universally known to sportsmen, and the flesh is highly esteemed. In its habits it is a nocturnal bird, as it keeps the woods and thickets in the day time, and resorts to springs and wet places for its food at the approach of evening. In midsummer it may be found on the marshy shores of the large rivers and lakes. Its food is the larva of insects and aquatic worms. It moves northward from Louisiana and Mississippi, in the spring, to the region of Minnesota. Of Woodpeckers (*picus*) there are several species in this valley. These birds have a stout angular bill. The tongue is long, wormlike, and can be protruded much beyond the beak. It terminates in a horny and sharp point, and barbed with spines to transfix and hold insects. They cling to the trunks of trees by their feet and tails, and perforate the bark and decayed wood, in search of insects. Their plumage is variegated with white, black

red, orange and purple colors. The ivory billed species is the most formidable, of which an interesting description may be found in Wilson's ornithology. This family of birds, at the proper season, are found in all the latitudes of the Mississippi valley.

The Snow-bird (*Fringilla hyematis*,) and the snow-bunting (*Emberiza nivalis*) are fitted by nature for a northern and wintry climate, but in severe winters they emigrate south, in search of provisions. If the severe weather approaches early in the North, they may be seen in large flocks in this vicinity, early in November, migrating to the lower valley, and returning again in March. They breed in the remote regions of the North. The hemp-bird (*Fringilla tristis*,) the sparrow-hawk (*Finunculus sparverius*), long sparrow (*Fringilla melodia*), chipping-sparrow (*F. socialis*), are all migratory birds with the season in this valley.

The *thrush* tribe are distinguished for their warbling, but not for melody. They live on herbage, insects and worms. Their colors are not brilliant. The most noted in their annual and semi-annual migrations, in this vicinity, are the mocking-bird, robin, cat-bird and common thrush. The mocking-bird (*Turdus polyglottos*,) while it occasionally migrates to the North, is found mostly in the middle and southern sections of this valley. It has a cinereous or ash color, and is the "master spirit" among all our birds for vocal imitation. It can strike the note of nearly every warbler from the twitter of the humming-bird to the scream of the eagle. It can also sing its own song, which is bold, full and exceedingly varied. Wilson gives the following description of its singular and varied power of voice: "He whistles for the dog; Caesar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about, with hanging wings aud bristled feathers, clucking, to protect her injured brood. The barking of the dog, the mewing of the cat, the creaking of the passing wheel-barrow, follow with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He runs over the quiverings of the canary, or the clear whistlings of the Virginia nightingale or red-bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat, by redoubling his exertions." They are most resolute defenders of their nests during the period of incubation.

The American robin (*T. migratorius*) passes the winter in Louisiana, Texas, Florida and the West India Islands. They are often seen in this part of the valley, by the middle of March. Occasionally a pair takes up their residence and raises a family in this latitude, but their summer resort for food and breeding is above the fortieth degree of latitude. They have been seen in all parts of the Upper Mississippi and its tributaries, and along the waters of the northern ocean, and about Hudson's Bay. Having fulfilled their mission, they journey southward through this district, in the month of October.

The Cat-bird (T. *felivox*) has its name from its note resembling the cry of a kitten in distress. Its color is that of slate, with a head and tail inclining to black. This bird has great imitative powers with its voice. No bird shows signs of such extreme suffering as the cat-bird,

when its nest or young are threatened. He attempts no offensive measures, but hurries backward and forward, rolls on the ground, screams as if in pain, and seems to bewail and implore in the most pathetic tones not to be molested. This bird is a terrible enemy on snakes, especially the common black-snake (*coluber constrictor*) which robs his nest when opportunity offers. Bartram and Wilson both testify that this bird is both the aggressor and the victor. The cat-bird will catch the common garter, green and other snakes, carry them in their beaks some distance, and impale them on thorns. The common thrush (T. *rufus*) is of a reddish brown color, and makes its appearance amongst us in April, and is well known by its song.

The Barn-swallow (*Hirundo Americana*,) appears in this section of the valley from the middle of April to the first of May, and leaves early in October.

The Purple Martin (*H. purpurea*,) is much the largest bird of the swallow tribe, and makes its summer residence in the vicinity of man. Every boy in the country knows the efficacy of a martin box, and every negro a gourd suspended from a pole to entice this bird to make a permanent visit. Its note is loud and musical, and in the country it performs valuable service to the farmer, in the destruction of insects, and in driving away crows, hawks, eagles and other large birds.

The Republican or Cliff Swallow (*H. fulva*) may be seen in large numbers along the limestone cliffs of the Upper Mississippi and other rivers at the proper season. It lives in communities, building nests of mud under projecting cliffs, in unsettled places.

The chimney swallow (*H. pelasgia*,) differs essentially from the other swallows in form and habits. The color is a deep sooty brown, its tail short and rounded, its body short, and its wings long, with quick vibrations. They often build their nests in the vacant flues of chimneys, from which a casual smoke will not dislodge them. Occasionally they take up their abode in communities, in large hollow trees and canes, where both this species and the cliff swallow sometimes reside during winter. The swallow family are peculiarly the friends of the farmer and gardener. Their proper home is the air; they are ever on the wing, and move with amazing swiftness. Their feet are short and their wings very long. Their food chiefly consists of small flies and gnats, which they take on the wing and devour incalculable numbers. No doubt they are valuable visitants, and merit our protection. This tribe, especially the barn-swallow, perform their regular migrations so as to avoid entirely a wintry climate.

The American Blue-Jay (*Garrulus christatus*) is a lively, petulant bird, rapid in its movements, and exceedingly noisy. It has the faculty of imitating harsh sounds, and when alarmed utters piercing cries. They can be taught, like their kindred, the magpie and jackdaw, to utter words. They are migratory, yet are frequently seen in this region, and much further north during winter.

The Blue-bird, (*Sylvia Sialis* of Wilson; *Saxicola Sialis* of Bonaparte,) is one of the earliest messengers of spring, and one of our prettiest little warblers. They usually appear in our climate about the first of March, and pass northward as spring opens. They have been seen in midsummer beyond the extreme heads of the Mississip

pi. They return south in autumn, in the month of October or early in November, and sometimes fly at an immense height in the atmosphere.

There are several species of *plover* in this valley. This bird belongs to the genus *grallae*, or waders, and are found in wet and marshy ground, about lakes, ponds and rivers, in search of food. They stir the soft muddy soil with their feet to bring worms and aquatic insects to the surface. They are gregarious, and are found in flocks, and their flesh is a delicacy and much sought after by sportsmen.

Peculiar to America, and found in this valley, are the ring-plover, (*Charadrius semi-palmatus*,) the singing plover, (*C. melodius*,) Wilson's plover (*C. Wilsonius*,) and the kill-deer (*C. vociferous*). The last is the most common.

The Humming-bird (*Trochilus*,) is one of the most beautiful gems of animated nature. There is but one species in the United States, (T. *colubris*) and belonging to the sub-genus *mellisuga*, or those having straight bills. The food of the humming-bird is the honey and farina of flowers, and perhaps small flies, and while feeding, it remains poised in the air; his wings in such rapid motion as to cause the humming noise that gives the name. Wilson says of its dress: "The splendor of the feathers about the throat, when viewed in a proper light, rival the ruby in brilliancy." Its colors, when the bird is in motion, are changable. It appears in Louisiana in February, and at the mouth of the Ohio by the 20th of May, and in a week is in this latitude. Thus it proceeds slowly northward, and may be seen about the heads of the Mississippi early in August. A month later it is on its return to a milder climate, and does not stop its migration until it reaches the tropics. This bird makes the longest journeys of any American bird, and delights to revel among flowers and in perpetual summer. It is peculiarly senaitive to cold, and droops and dies, if deprived of the anima ing influence of the rays of the summer's sun.

The House-wren (*Certhia familiaris*), is one of our migratory birds, and may be seen, at proper seasons, the whole length of the Mississippi valley. It delights to make its abode about the dwelling of man, and is constantly on the search for insects in the crevices of the walls.

The Night-hawk (*Caprimulgus popetue*,) appears in our region about the first of May, and may be seen in twilight, pursuing its prey which consists of beetles and other large insects. It is a bird of strong and vigorous flight, with great expansion of wing. They go south early in September.

But the most remarkable bird that performs its migration from the region about the Gulf of Mexico, and has been heard beyond the forty-ninth degree, is the Whip-poor-will, so named from the sound of its song in the night. It is the *Caprimulgus vociferous* of Wilson. It arrives in the latitude of St. Louis, usually, between the 15th of April and 1st of May, and continues northward, as the season advances, to Hudson's Bay. It continues its cry (except in bright moon-light) during the night. To the Chippewas and other Indians of the Algonquin race, the sound is *muck-a-wiss*. It returns to the

same spot annually, and not unfrequently two or three birds are serenading the family, by alternate notes, within a few yards of the house. When engaged in its nocturnal rambles, it may be seen flying within a few feet of the earth, in quest of moths and other insects. Sometimes in the dark, they will skim along within a few feet of a person, making a low chattering noise as they pass. During the day these birds retire into the darkest woods, usually on high grounds, and in obscure places. The Whippoorwill is about nine inches in length, and when its wings are stretched out, they measure nineteen inches from the tip of one to the tip of the other. The mouth and throat are very large, and studded along the sides with long stiff bristles, extending beyond the bill. The plumage is beautifully variegated with black, brownish, white and a russet color, with numerous streaks and spots. Its song is somewhat plaintive, and yet exhilrating, and closing with a kind of *cluck* resembling *whip-poor-will-ugh*,

MOVEMENT IN ARKANSAS.

The State of Arkansas seems somewhat distracted about the policy to be pursued in the application of the late munificent grant of lands by Congress to that State, for a great trunk railroad and branches. Personal interests, and political legerdemain, are employed to pervert public opinion; to split the trunk into branches, and to force the branches into a trunk railroad; to sacrifice the just claims of the North to the pretended claims of the East, to prevent trade from going where it will pay, and to compel it to go where it will not pay.

But the *True Democrat* of Little Rock, leading a gallant band of patriots, is found continually and boldly defending the policy of common sense, justice and enlightened statesmanship. We are pleased to find in the columns of this liberally conducted paper, that a practical movement is being made in the right direction.

(From the "True Democrat.")

Northern Sentiment.—We subjoin the following short but significant paragraph, from the Batesville "New Era:"

"We understand that Col. J. H. Patterson and A. I. Ambler, intend, during the present spring or summer, to set out on a tour along the line of the 'Mississippi Valley Railroad,' for the purpose of trying to arouse the people to the work of its early construction. The object of their labor is of unutterable importance to our whole State; and we therefore trust that every man may give them an unprejudiced hearing—and that their efforts may thus be crowned with great success. The late bounty of the General Government, if properly applied, gives full assurance of the success of this work. It is a work of the highest importance to this region of country—and particularly to the owners of land near the route."

We give the above as an evidence of the deep interest being taken in North Arkansas in the 'Mississippi Valley Railroad,'—the road to be run through Arkansas, connecting New Orleans and St. Louis. To Col's. Patterson and Ambler, we can say the State will one day feel and acknowledge all such efforts as they now propose to make. We trust they will carry out their patriotic intentions, and that their labors may meet with the fullest success.

JOURNAL OF INTERNAL IMPROVEMENTS.

Arkansas and Missouri Railroad.

IRON MOUNTAIN & SOUTH MISSOURI, CHALK BLUFF & FULTON, LITTLE ROCK & CHALK BLUFF, AND ST. LOUIS & LITTLE ROCK RAILROAD.

We wish to save words. In this labor-saving and time-saving age —in this age of steam, caloric and electricity, we would impart a kindred spirit into our Railroad Literature. We desire that every idea may be good and wise, and may go into immediate and practical operation.

We have always treated the Arkansas and Missouri Railroad in a matter-of-fact-way, first by an investigation of the U. S. Survey, and last by an investigation of the U. S. Grant. The ideas we have heretofore planted have taken root; and we will now endeavor to cultivate them, to plough about and enrich them, that they may yield, in due season, an abundant harvest of good results.

By the investigation of the U. S. Survey, we have shown that the cost of construction of the Missouri portion of this road is $3,514,773.

The cost of equipments has been shown to be $525,000, making the total cost of the work in Missouri $4,039,773.

The cost of construction of the Arkansas portion of this work was shown to be $4,802,101, and the equipments $855,000, making the total cost of the work in Arkansas $5,657,101.

The minimum value of the land granted for the Arkansas portion of this road was shown to be $2,736,000, almost equal to ½ the total cost of its portion.

The fund, partly already secured, and the remainder reasonably anticipated, when wanted, for the Missouri portion of this road, was shown to be $2,000,000, nearly ½ the total cost of its portion.

We will now proceed to show from the census of 1852, the population and revenue of the counties through which the Missouri portion of this road runs.

Counties.	Population.	Revenue paid in 1852.
St. Louis,	121,853	$88,754 79
Jefferson,	9,090	2,536 30
Washington,	8,162	2,581 53
St. Francois,	5,703	1,711 59
Madison,	5,581	1,720 78
Wayne,	3,847	609 37
Butler,	1,717	224 98
	155,953	$98,139 34

This table indicates the resources of the country on the line from St. Louis to Chalk Bluff, Arkansas. Yet the difference between the proportion of population and revenue in St. Louis county and the five other counties north of Butler is altogether owing to the undeveloped condition of the resources of those counties.

The Geological survey of Missouri will doubtless prove that each one of those five counties is naturally far richer than the county of St. Louis; and therefore, in proportion to their population with St. Louis, they should naturally pay a larger revenue.

The Iron Mountain is mainly situated in St. Francois county, though partly in Washington. The Pilot Knob is situated in Madison county. The southern and western portions of Jefferson county abound in minerals. Potosi and Fredericktown are each surrounded, within an equal area, by ten times the natural wealth of the whole county of St. Louis, and though it is a matter of great astonishment, the same may be said of Greenville.

To prove that we do not over-estimate, and it may be that we even under-rate the natural wealth of Central South Missouri, we will here republish (see vol. 8, page 260,) a paragraph from a letter written to the author of this article by an ex-member of Congress, residing in that district.

"The line of railroad you have suggested, would traverse more than one hundred miles of the richest iron deposits on the Globe, (from the Maramec to the swamps); scarce one section of land can be passed without finding on it deposits of iron ore, and in many localities in astonishing quantities. Notwithstanding the vast amount of iron ore found in the Mountain and Knob; I am of opinion, Wayne county contains more iron ore than any county in the State, and perhaps nearly as much water power; yet it is useless, and the lands of that county valueless, even at government price, except in a very few localities, because she is cut off from an easy and direct access to the Mississippi, by the swamps extending from Cape Girardeau to the mouth of the St. Francois."*

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* In corroboration of the testimony offered by our own correspondent above quoted relative to the mineral resources of the region between the Maramec river and the Swamp District in Missouri, we will here add a note published in the "Missouri Democrat," on the 20th April, 1853. This note further discloses some interesting items showing the activity displayed by the Iron Mountain Co. in the prosecution of their enterprise.

MINERAL RESOURCES OF JEFFERSON COUNTY.

Mr. Editor: I have just returned from a short tour through this county, and have examined some rich veins or leads of lead ore. There have been two new discoveries made lately by Mr. Swan and Menard, near Herculaneum, which, I think, will prove to be very rich. The St. Louis and Iron Mountain railroad passes immediately between those two leads up the valley of the Joachim creek, which I think equal, if not superior, to any other stream for agricultural purposes and water power in the State, and I consider the mineral resources of this county as almost inexhaustible. I also met Capt. Horine and two other gentle-

Butler county embraces the Swamp District over which the road passes; and as the above table indicates its resources to be the least, therefore the most particular attention will be paid to its real condition and its latent capabilities.

Butler county contains, over 15 townships, about 350,000 acres of land. About 100,000 acres are free from inundation, and 250,000 acres are Swamp Lands.† They are to be reclaimed by drains and levees.

An embankment must be raised for the bed of the railroad through this Swamp District. May not the levee for the swamp and the bed for the railroad be one and the same?

By reference to an article on the subject of the South Missouri R. R., vol. 9, page 207, and also to an article on the subject of Southeast Missouri, same vol., page 313 and fol., it may be seen, on the data discovered, a strong presumption is raised, that this result can be realized. And as nothing has appeared since to alter the position then taken, it may be assumed to be allowed, until other surveys demonstrate the fact.

Butler county, by an act of the Legislature of Missouri, at its last session, has obtained the title to all the swamp lands within its limits for the purpose of their reclamation with provision for the appropriation of their proceeds to the cause of education.

Under these circumstances, what is the wisest course for Butler county to pursue?

Plainly: on the demonstration of the facts above stated, to transfer the whole amount of its swamp lands thus reclaimable, into stock in this railroad, and then by appropriating the proceeds of the Railroad stock to the cause of education, all the provisions of the grant will be fulfilled, and the most profitable investment secured for posterity, and also even for the present generation.

These 250,000 acres of land reclaimed along the line of this railroad will be worth on an average $2.50 per acre. Total value $625,000.

By a careful investigation of the report of the U. S. Survey for this railroad, it is found that the estimates of the Butler county portion of

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men, who were engaged in getting the right of way for the Iron Mountain road, which I was told was readily granted. The entire route, with but three exceptions, extends up the valley of this stream some twenty or twenty-five miles, then crosses to the copper mine branch of Big River. I anticipate some large discoveries of ore before this road is completed through this county, as it will pass through one of the richest mineral regions in Missouri.

Valle's Mines, April 6, 1853. AN OLD MINER.

† These data are derived from the maps and field notes in the Surveyor General's office, at St. Louis. The report of the exact amount of swamp lands, though daily expected, is not yet made by Butler county.

the road, elaborated and arranged in tabular form, as heretofore published by us in the "St. Louis Intelligencer," are as follows :

Cost of Butler County Railroad, being 30 miles over swamp lands,	
Cost of clearing, grading, masonry and bridging	$181,564
Cost of construction with iron rails (65 pounds per yard) with necessary sidlings and switches, 30 miles, at $7,-500 per mile,	225,000
Cost of engineer department and contingencies	32,610
Total cost of construction	$439,174
Add to this the cost of equipment at a liberal rate, $3,000 per mile, not calculated in the report	90,000
And we find the total cost of this road, with depots, station and engine houses, workshops, locomotives, cars, &c., in complete running order, to be	$529,174

And the cost per mile $17,637.

But it was shown that the swamp lands of Butler county reclaimed would be worth $625,000, and therefore it follows that Butler county possesses latent capabilities, by which it is able to construct and equip the whole railroad through its limits, and retain a surplus of nearly $100,000 to complete its system of internal improvements.

Such being the real condition of Butler county, although appearing from the above table to be the least capable of giving any material aid to this work; how much more capable must Wayne, Madison, St. Francois, Washington and Jefferson be with their "100 miles of the richest iron deposits on the globe ?"

Wayne county will embrace 30 miles of the road, and Madison county 20 miles. The cost of the road, in running order, through these counties, on the basis of Capt. Barney's estimates, was about $25,000 per mile.

Although Capt. Barney's route did not run on a direct line from Pilot Knob to Butler county, yet the estimates on his route may be safely applied to this judging from the additional facts stated by the author above quoted.

"It is on these table lands that the beautiful settlements of Bellevieu and Arcadia are made, and between them the Iron Mountain and Pilot Knob rear their iron heads; and with full confidence I can speak of the entire practicability of constructing a railroad from hence to a point below Greenville on or near the southern line of the State, on a route more direct, and of lower grade, than can be obtained for the same distance in Southeastern Missouri, certainly more so, than from St. Louis to the Iron Mountain. Although the descent from this elevated portion of the country is about the same to Greenville as to St. Louis, the descent is easier and more direct to the former."

It may be also here added that the final survey from Hazel Street, St. Louis, to the heart of Iron Mountain makes the distance about 80 miles, and the cost about $30,000 per mile.

But it must be remembered that the Land Damage in St. Louis city and county must necessarily be immensely greater than that in Madison and Wayne counties.

These facts, therefore, warrant the conclusion that the Wayne county portion of this road will cost about $750,000, and that the Madison county portion will cost about $500,000, and as these two counties are considered to be naturally the richest counties in Missouri, capitalists will soon rush there, enter the lands and take all the stock necessary to build these 50 miles of the road, if the Government of the United States should be so imprudent as to expose these lands for sale before it grants the 10 alternate sections, in accordance with the memorial of the Mississippi Valley Railroad Convention, raises the value of the reserved lands, and obtains the right of transportation of its troops and property.

From the above elucidation it is manifest that the prospects of the South Missouri portion of this road, from Pilot Knob to Chalk Bluff, are of a brilliant order.

The St. Louis and Iron Mountain portion having been resurveyed, and as the route is being rapidly located and the right of way obtained, it will be completed at the earliest practicable period.

These two portions being finished, if Arkansas should be disinclined to co-operate with Missouri, the South Missouri road would turn from Chalk Bluff, and easily strike the Mississippi river at New-Madrid, whence it would connect with the lines on the eastern side of the river, leading to the Gulf and also to the Ocean.

But Arkansas will not be indifferent to the advantages offered by the U. S. Survey, from Chalk Bluff to Fulton, and the grant of lands for this main trunk road, and most especially will she not be indifferent to the advantages of a connection with the Iron Mountain of Missouri and the City of St. Louis.

We have heretofore shown (vol. 9, page 401 & fol.,) that by Capt. Barney's survey the Chalk Bluff and Fulton railroad is 285 miles long, and its total cost in running order is $5,657,101. We have there also shown that the U. S. grant of lands to this trunk road is worth $2,736,000, nearly ½ the total cost of the whole road.

We will now proceed to show, from the same survey, the length and total cost of the northern portion of this road—the Little

Rock and Chalk Bluff railroad, and the value to this of the U. S. Grant.

As the length and cost of construction of the North Arkansas or Little Rock and Chalk Bluff railroad has been heretofore elaborated by us in vol. 9, page 41, and the length was found to be 160 miles, and the cost of construction $2,342,263, by adding the cost of equipments on the estimate allowed for the whole, viz: $3,000 per mile, the total cost of the Little Rock and Chalk Bluff railroad is found to be $2,822,263.

On an investigation of the grant it is found that 614,400 acres are applicable to this portion of the road; and that at $2.50 per acre—the minimum price of the lands reserved in the grant, these 614,400 acres are worth $1,536,000—more than ½ the total cost of the road.

The Little Rock and Chalk Bluff railroad is found to be not only the cheapest but also the most level portion of the railroad through Arkansas, and therefore it follows, other things being equal, that this road should be the first one built by the people of Arkansas. Starting from Little Rock, the first half of the Little Rock and Chalk Bluff railroad will unite Little Rock with White River near Batesville.

This road of 80 miles will, as it appears from Capt. Barney's survey, be the cheapest and most valuable; and judging of the character of the land from the notes in the survey, the grant for this particular portion may equal the cost of its construction. It would open the heart of the State, would accomodate the inhabitants of both, Black and White rivers, and besides being in the direct line of the grant and of the Cairo and Fulton railroad, would also be a link in the Great Mississippi Valley Railroad.

While Arkansas is building this Little Rock and Jacksonport portion, 80 miles, Missouri will be building the St. Louis and Iron Mountain portion, also 80 miles. The other 80 miles in each State, from the data above exhibited, will be speedily completed, Little Rock and St. Louis will be brought within less than 12 hours of each other, their reciprocal trade will be started, the country along the line will be highly cultivated, manufactures established, and wealth and sociability crown the enterprise.

Articles may be written hereafter to show the immense reciprocal benefit to be derived by Arkansas and Missouri through the instrumentality of the St. Louis and Little Rock railroad.

As we are now laying the foundation of this enterprise, we will here offer, as a basis for future argument, a table of valuable data representing the population and agricultural productions of Arkansas and Missouri, taken from the U. S. Census of 1850.

Population of Arkansas and Missouri.

States.	Whites.	Free colored	Slaves.	Total population.
Arkansas.	162,068	589	46,982	209,639
Missouri.	592,077	2,544	87,422	682,043

Agricultural Productions of Arkansas and Missouri.

Arkansas—Acres of land improved	780,333
Missouri— do. do. do.	2,924,991
Ark., Value of Farming Implements and machinery	1,594,941
Mo., do. do. do. do. do.	3,965,945
Ark., Value of Live Stock	6,728,254
Mo., do. do.	19,766,851
Ark., Bushels of Wheat	173,902
Mo., do. do.	2,966,928
Ark., Bushels of Indian Corn	8,857,296
Mo., do. do. do.	36,069,543
Ark., Pounds of Tobacco	224,164
Mo., do. do.	17,100,984
Ark., Ginned Cotton, Bales of, 400 pounds each,	64,987
Mo., do. do. do. do. do	
Arkansas, Pounds of Wool	181,427
Mo., do. do.	1,615,860
Ark., Gallons of Wine	10
Mo., do. do.	10,563
Ark., Pounds of Butter	1,854,104
Mo., do. do.	7,692,499
Ark., Pounds of Cheese	28,440
Mo., do. do.	202,122
Ark., Tons of Hay	3,924
Mo., do	116,743

Ark.,	Tons of dew rotted Hemp.....	
Mo.,	do. do. do.	17,207
Ark.,	Tons of water rotted Hemp.....	145
Mo.,	do. do. do.	5,351
Ark.,	Bushels of Flaxseed.....	695
Mo.,	do. do.	13,641
Ark.,	Pounds of Maple Sugar.....	8,825
Mo.,	do. do. do.	178,750
Ark.,	Value of home-made manufactures.....	644,928
Mo.,	do. do. do. do.	$1,663,016

These figures will suggest copious arguments in favor of a north and south order of trade even between contiguous States.

The liberal minded people of Batesville, Arkansas, have expressed their appreciation of the superior advantages of the North and South trade; they have made noble resolutions, and we trust they will maintain them with a firmness equal to the irresistable eloquence with which they are written. So bold and yet so courteous are they, so comprehensive and yet so pointed, and withal so admirably adapted to infuse an energetic spirit in the enterprise of the Arkansas and Missouri Railroad, that we cordially copy them from the "*Commercial* (Batesville) *Standard:*"

"At an adjourned meeting of the citizens of Independence county at Batesville the following proceedings were had to wit:—

The meeting organized by calling Col. Rob't Smith to the chair, and appointing Jesse Searcy, Secretary:—When Col. Patterson, Chairman of the committee appointed at a previous meeting, submitted the following Preamble and Resolutions, which were unanimously adopted:—

Whereas, The late act of Congress, "entitled an act granting the right of way, and making a grant of land to the States of Arkansas and Missouri, to aid in the construction of a railroad from a point on the Mississippi river, opposite the mouth of the Ohio, via Little Rock to the Texas line, near Fulton, in Arkansas, with branches from Little Rock to some point on the Mississippi river; renders it highly important to the people of Arkansas, that such steps should be taken by the State as will secure the benefits intended to be conferred by said act. And in order to carry into effect the objects of said grant, it will be necessary that the power of the Legislature shall be invoked.

1st. Therefore, be it resolved, that it is the opinion of this meeting that the Legislature should be immediately convened, and

that such action shall be taken upon the subject of said grant, as may most effectually carry out the true spirit and object thereof.

2d. And be it further resolved, that we regard the survey and location of the route for said railroad and branches, as the great and primary object to be accomplished by the State Legislature, and that should said road be located according to the spirit of said Act of Congress, the work will prove of general interest to the State, and be speedily completed. But should said location be diverted from its natural and proper course by the influence of *selfish and sectional combinations*, the road will be greatly retarded if not totally defeated.

3rd. Be it further resolved, That it is not the wish or intention of this meeting to make any suggestions but such as are calculated to harmonize and concentrate the entire energy of the State, upon the great object contemplated in said grant; yet we nevertheless hold it to be our duty to give such expression of the sense of our section of the State, as to secure a fair representation of our interest in the location of said road and branches.

4th. Be it further resolved, That it is the sense of the meeting that the main trunk road provided for by said grant, should be extended over the most direct and practicable ground—and through a country between the termini of said road most in need of it—and upon a line which will render the grant of Congress most valuable. And it is further the sense of this meeting that such route should not cross White River, East of a survey heretofore made by Capt. Barney.

5th. Be it further resolved, that the "Cairo and Fulton" railroad charter, as passed at our last session of the Legislature, when taken in connection with the charter of the Mississippi valley railroad, is acceptable as we believe to this portion of the State, and instruments, under which the spirit and design of the said grant may well be carried out; yet we are decidedly of the opinion, that it would be far better, were it possible to harmonize the conflicting elements—that the friends of the Little Rock and Memphis road, and the Cairo and Fulton road, should all act under our charter, but in no event would we acknowledge the so called "Central railroad," to be paramount to the Cairo and Fulton road, but under all considerations would urge the latter as the main trunk road, and to be built first in order.

6th. Be it further resolved, That we consider the introduction of railroads into our State as a subject of the first magnitude, and that the State should encourage such enterprises by every means in her power, by granting liberal charters to companies, and concentrating all internal improvement funds within her control, to a few well defined objects. And that authority should be given to counties and towns, to take stock in such public works, and to levy taxes to be appropriated to that purpose.

Resolved, That as citizens of the county of Independence we recognize in the construction of the St. Louis and New Orleans road interests of the highest importance to the State at large, and in which we are directly identified, and we hereby pledge ourselves as a county to a hearty and zealous co-operation with our money, energy and good will to the fullest extent of our means and capabilities.

On motion of Col. Noland, it was ordered that the proceedings of this meeting be published in the "Commercial and Democratic Standard," and that the Little Rock papers be requested to publish the same.

On motion the meeting adjourned.

JESSE SEARCY, Sec'y. ROB'T SMITH, Chairman.

We hope to hear that the positions assumed in these resolutions will be maintained by a vast majority of the people of Arkansas; that they will constitute the standard platform of the internal improvement principles of that State, and that the system, being thus determined upon, will be speedily put into practical operation.

In order to confirm the people of Arkansas in this policy, in addition to the facts and arguments above presented, we will here adduce some items, which, taken from the records of the City and County of St. Louis, indicate the wealth and the enterprising spirit of the inhabitants.

From the report of the Comptroller of the City of St. Louis, dated Oct. 11th, 1852, the following quotations are taken:

"The assessment of the real and personal estate for taxation, in the several wards of the city, for the present year, is..... .....$38,281,668 96

"Amount of merchandize reported for taxation by merchants and others 7,560,697 44

"Amount.....$45,842,366 40

"Estimate of the total revenue for the present fiscal year, $587,710. This estimate realized and paid into the Treasury, as I confidently expect will be the case, will leave a surplus of $35,000 beyond the appropriations for the present year which may be applied to the payment of bonds. Bonded debt of the city of St. Louis, October 11th, 1852, $2,098,096."

From the Mayor's Message, 10th of May, 1852, we quote the following:

"The property owned absolutely by the corporation, is valued by the assessor as by published statement, at $2,899,340."

Therefore it is manifest that the city of St. Louis has not only $35,000 surplus revenue after meeting current expenses, but also the additional sum of $801,244, worth of surplus property after paying every debt, and this too independent of the wealth of the inhabitants.

From the records of the County Court we quote the amount of revenue paid in 1852, by the County of St. Louis to the State of Missouri, as before stated in the table, ... $88,754 79

Also the assessment of the County for County purposes, in the same year, ... 248,462 59

Showing the total amount of State and County tax..... $337,217 38

To which add the City tax for City purposes..... 587,710 00

And the total amount of tax paid by the inhabitants of the County of St. Louis, in 1852, is found to be $924,927 38

Yet this amount, great as it really is, is still less than ($7·60) seven dollars and sixty cents for each inhabitant, on an average of all the inhabitants of the County, as may be easily proved by reference to the census of the same year, according to which the population of St. Louis County is found to be as stated above, 121,853, being only 87,786 less than the total population of the State of Arkansas, which was 209,639, according to the United States Census of 1850.

City Bonds and County Bonds of St. Louis, are both par.

We have thus established a firm basis on which the Arkansas & Missouri Railroad is to be built.

The irresistible facts and arguments above addaced, of themselves suggest manifold unelaborated reasons, in favor of the immediate concentration of mind and money on this enterprise.

Let this be done, and then Little Rock and St. Louis would increase with unparalleled prosperity, iron and cotton manufactories would arise, every nerve of agricultural, mechanic and commercial life at and between these two points would be strung with indomitable energy, and an impulse would be given toward inter-tropical trade which would offer us not only more than the wealth of the Indies, but would also add social comforts and political securities and establish a reputation for the Mississippi Valley, practically unsurpassed by that of the primitive Garden of Eden.

COMMERCIAL STATISTICS.

COMMERCE OF CHICAGO.

From "Annual Review, &c.," for the year 1852, issued from the "Democratic Press."

RECEIPTS of Produce and Merchandize at Chicago during the year 1852, by lake, canal and railroad.

	Lake.	*Canal.*	*G.& C.U.R.R.*	*Total.*
Ashes, tons	22	.....	.....	22
Apples, bbls	21,318	.....	.....	21,318
Ale, bbls	209	21	.....	230
Agricultural Implements, tons	.....	72	.....	72
Beef, bbls	11	1,178	.....	1,189
Bark, cords	2,646	.....	.....	2,646
Brick, no.	361,200	.....	.....	361,200
Butter, pkgs	866	2,818	9,587	13,270
Barley, bushels	1,687	8,785	90,248	100,711
Beer Bottles, hhds	13	.....	.....	13
Baskets, no	460	.....	.....	460
Beadsteads, no	147	.....	.....	147
Beans, bushels	.....	89	.....	89
Buckwheat, bushels	.....	5,740	.....	5,740
Bacon, pounds	.....	201,500	.....	201,500
Beeswax, pounds	.....	48,457	.....	48,457
Broom Corn, tons	.....	184	.....	184
Bran, bushels	.....	7,827	.....	7,827
Corn, bushels	1,810,830	671,961	.....	2,482,791
Coffee, pounds	.....	60,524	.....	60,524
Charcoal, bushels	.....	240	.....	240
Clocks, pounds	.....	1,320	.....	1,320
Candles, boxes	941	84	.....	1,025
Coal, tons	42,933	3,310	.....	46,233
Cider, barrels	420	.....	.....	420
Cedar Posts, number	199,221	.....	.....	199,221
Chairs, no.	615	.....	.....	615
Churns, dozens	32	.....	.....	32
Chair Stuffs, rolls	497	.....	.....	497
Crockery, crates	245	.....	.....	245
Castings, tons	41	.....	.....	41
Castings, pcs.	2,653	.....	.....	2,653
Car Wheels, no.	594	.....	.....	594
do. tons	58	.....	.....	58
Car Axles, no.	450	.....	.....	450
Car Trunks	23	.....	.....	23
Cars,	2	.....	.....	2
Eggs, barrels	10	99	.....	109
Empty Barrels,	2,773	6,000	.....	8,773
Engines and Boilers, no.	4	.....	.....	4
Fish, barrels	5,249	2	.....	5,251
Flour, barrels	2,857	1,846	.....	49,019
Furniture, pounds	20,700	139,218	.....	159,918
Flaxseed, bushels	300	.....	.....	300
Flax, pounds	.....	11,200	.....	11,200
Fruit, pounds	.....	63,984	.....	63,984
do. boxes	4,909	.....	.....	4,909
Feathers, pounds	.....	6,424	.....	6,424
Furs and Peltries,	.....	30,804	.....	30,804
Grindstones, no.	9,051	.....	.....	9,051
do. tons	64	.....	.....	64

RECEIPTS of Produce and Merchandize at Chicago, &c.–Continued.

	Lake.	*Canal.*	*G & C. U. R. R.*	*Total.*
Glass, boxes	20,781	.....	.....	20,781
Glassware, casks	71	.....	.....	71
Grease, pounds	.....	71,396	.....	71,396
Hogs, live, No.	280	.....	.....	280
do. dressed, pounds	.....	86,800	10,881,510	10,968,310
Hollow Ware, galls	4,796	.....	.....	4,796
do. tons	662	.....	.....	662
Hardware, pkgs.	2,119	.....	.....	2,119
Hoops, No	16,000	.....	.....	16,000
do. pounds	.....	436,510	.....	436,510
Horses, No.	29	.....	.....	29
Half Bushels, No.	200	.....	.....	200
Hides, pounds	11 000	887,318	396,312	1,294,630
Hams, pounds	.....	4,223	.....	4,223
Hops, pounds	.....	4,878	.....	4,878
Hemp, pounds	.....	871,028	.....	871,028
Hay, tons	.....	180	.....	180
Iron, bdls and bars	40,560	5,100	.....	45,660
do. tons	1,446	.....	.....	1,446
do. Railroad, tons	11,227	.....	.....	11,227
do. do. bars	81,995	.....	.....	81,995
do. pig, tons	3,495	.....	.....	3,495
Lumber, feet	147,816,232	76,148	759,894	148,652,274
Lath, pcs	19,759,670	1,000	.....	19,859,670
Locomotives, No	16	.....	.....	16
Lead, kegs	5,147	.....	.....	5,147
do. rolls	364	.....	.....	364
do. pounds	.....	642,027	715,300	1,357,327
Lead Pipe, tons	60	232	.....	292
Lime, barrels	765	625	.....	1,390
do. pkgs.	660	.....	.....	660
Liquor, casks	121	.....	.....	121
Lard, pounds	.....	67,793	.....	67,793
Merchandize, packages	305,696	.....	.....	305,696
do. tons	4,446	204	.....	4,650
Malt, bushels	650	846	.....	1,496
Mills, No.	1	.....	.....	1
Marble, pcs.	4,250	.....	.....	4,250
do. tons	374	.....	.....	374
Mahogany, pcs.	111	.....	.....	111
Molasses, pounds	.....	746,564	.....	746,564
Meal, pounds	.....	83,728	.....	83,728
Nails, kegs	10,685	.....	.....	10,685
Nuts, pounds	.....	750	.....	750
Oils, bsrrels	838	140	.....	978
Oats, bushels	.....	833,703	674,941	1,508,644
Powder, tons	189	.....	.....	189
Plaster, barrels	999	.....	.....	999
Potatoes, bushels	6,772	17,552	6,286	30,610
Paper, reams	3,100	.....	12,807	15,907
Provisions, pounds	2,300	97,853	1,836,084	1,937,237
Pickets, No.	52,000	.....	.....	52,000
Pumps, No	732	.....	.....	732
Pork, barrels	960	2,310	.....	3,270
Pails, No	39,772	.....	.....	39,772
Potters' Ware, pounds	.....	6,232	.....	6,232
Posts, No.	.....	500	.....	500
Rye bushels	.....	617	.....	617
Rags, pounds	.....	57,830	.....	57,830
Rice, pounds	.....	6,089	.....	6,089

RECEIPTS of Produce and Merchandize at Chicago &c.–Continued.

	Lake.	*Canal*	*G.& C.U.R.R*	*Total.*
R. R. Ties, No	60,232	.....	.....	60,232
do. Chairs, bdls.	2,374	.....	.....	2,374
do. do. bbls	257	.....	.....	257
do. do. pounds	6,470	.....	.....	6,470
Rosin, barrels	1,232	.....	.....	1,232
Shingles, No	77,080,500	.....	.....	77,080,500
Staves, No	1,258,302	.....	.....	1,258,302
Spokes, No	24,000	.....	.....	24,000
Spiles, No	4,322	.....	.....	4,322
Spars, No	98	.....	.....	98
Stone, pcs	2,750	.....	.....	2,750
do tons	1,053	.....	.....	1,053
do. c. yards	.....	35,649	.....	35,649
Salt, barrels	91,674	.....	.....	91,674
" tons	185	.....	.....	185
Spikes, tons	198	.....	.....	198
Stoves, tons	386	1	.....	387
do. No	1,324	.....	.....	2,324
Stone Pipe, pcs	1,500	.....	.....	1,500
Saleratus, pks	1,450	.....	.....	1,458
Stucco, bbls	368	.....	.....	368
Skins, No	8	.....	.....	8
Soap, pounds	600	112,148	.....	112,740
Sofas, No	44	.....	.....	44
Shaths, No	253	.....	.....	253
Safes, No	42	.....	.....	42
Starch, boxes	600	.....	.....	600
Sundries, barrels	907	.....	.....	907
do. tons	.....	.....	981	981
Shot, tons	5	146	.....	151
Seeds, tons	.....	309	.....	309
Sugar, tons	.....	1,604	.....	1,604
Sand, tons	.....	735	.....	735
Spts, not whisky bbls	.....	184	.....	184
Tobacco, tons	27	222	.....	247
do. boxes	617	.....	.....	617
Tin, pigs	127	.....	.....	127
do. tons	112	.....	.....	112
do. boxes	105	.....	.....	105
Tinware, galls	19,640	.....	.....	19,640
Tar, barrels	491	.....	.....	491
Tubs, No	3,768	.....	.....	3,768
Trees, No.	2,972	6,471	.....	9,443
Tallow, pounds	.....	74,723	.....	74,723
Lumber, feet	1,603,250	87,400	.....	1,690,650
Vinegar,	4	.....	.....	4
Wheat, bushels	129,251	108,597	504,996	742,844
Water Lime, barrels	6,532	.....	.....	6,532
Water Pipes, tons	1,125	.....	.....	1,125
do. pcs	432	.....	.....	432
Whisky, barrels	1,783	.....	5,658	7,441
Wheel Barrows,	865	.....	.....	865
Wagon Hubbs	4,286	.....	.....	4,286
Wood, cords	22,319	28,322	859	51,500
Woodenware, ps	1,160	.....	.....	1,160
do. tons	23	.....	.....	23
Wagons, No	46	56	.....	102
Wool, pounds	.....	525,632	244,662	770,294
White Lead, pounds	.....	138,712	.....	138,712

SHIPMENTS from Chicago, by Lake, Canal and Railroad, during the year 1852.

	Lake.	Canal.	G. & C. R.	Total.
Ashes, tons	3	141	.....	144
Agricul' Impl., tons.	.....	274	.....	274
Ale, bbls.	50	93	.....	143
Barley, bu	70,818	508	.....	71,326
Beef, bbls	49,856	175	.....	50,031
do. tcs	1,546	.....	.....	1,546
Butter, pkgs	9,062	90	.....	9,152
Beeswax, casks	3	.....	.....	3
Broom Corn, bales	855	.....	.....	855
Brooms, doz	270	1,040	.....	1,310
Brick, No	49,000	194,900	.....	243,900
Barrels, No	136	1,920	.....	2,056
Bones, casks	56	.....	.....	56
Bark Mills, No	3	.....	.....	3
Boilers, No.	2	.....	.....	2
Bacon, lbs	.....	5,357	.....	5,357
Bran, lbs	.....	2,106	.....	2,106
Bark, tons	.....	329	.....	329
Cider, bbls	.....	37	.....	37
Corn, bu	2,737,011	.....	.....	2,737,011
Candles, boxes	1,300	.....	.....	1,300
Cattle, No	77	.....	.....	77
Castings, pcs	41	.....	.....	41
Corn Meal, bbls	350	.....	.....	350
Coffee, lbs	.....	197,182	.....	197,182
Cheese, lbs.	.....	51,238	.....	51,238
Carpet work, tons	.....	53	.....	53
Clocks, lbs	.....	53,286	.....	53,286
Coal, tons	.....	196	1,245	1,441
Crackers, lbs	.....	1,227	.....	1,227
Crockery, tons	.....	122	.....	122
Eggs, bbls	723	.....	.....	723
Flour, bbls	61,196	2,901	.....	62,097
Fish, bbls	464	3,106	.....	3,570
Flax Seed, bbls	408	.....	.....	408
Flax, bdls	18	.....	.....	18
Fruit, lbs	36,200	583,070	.....	619,270
Furs, pkgs	269	.....	.....	269
Grind Stones, tons	.....	89	.....	89
Gunny Bags, bales	18	.....	.....	18
Ginseng, bales	4	.....	.....	4
Groceries, pkgs	4,076	.....	.....	4,076
Highwines, bbls	13,374	2,868	.....	16,242

SHIPMENTS from Chicago, &c.—Continued.

	Lake	Canal.	G. & C. R.	Total.
Hams, No.....	128	67	.....	195
Hams&Should,cks	5.560	.....	.....	5,560
Hides, No.....	47,875	40	.....	47,925
Horses, No.....	17	.....	.....	17
Hemp, bales	4,140	.....	.....	4,140
Hardware, pkgs...	9,123	.....	.....	9,123
do. tons....	79	.....	.....	79
Hay, tons.....	578	.....	.....	578
Horns, casks.....	117	.....	.....	117
Hogs, No.....	4,508	.....	.....	4,508
Hair, lbs.....	.....	53,426	.....	53,426
Hops, lbs.....	.....	23,149	.....	23,149
Iron, tons.....	69	426	1,968	2,463
do. R. R., tons,	.....	9,647	.....	9,647
do. tools, lbs....	.....	1.453	.....	1,453
Leather, lbs.....	99,291	354,386	.....	453,677
Lead, tons.....	1,018	1	.....	1,019
Lard, bbls & kegs	4,638	.....	.....	4,638
Liquor, casks.....	5	.....	.....	5
Lime, bbls.....	1,605	.....	.....	1,605
Lumber, feet.....	.....	49,095,181	21,645,090	70,740,271
Lath, pieces.....	.....	10,659,245	4,589,200	15,248,445
Mdz., pkgs.....	4,450	.....	.....	4,450
do. lbs.....	.....	14,359,564	34,061,600	48,420,164
Molasses, tons....	.....	127	.....	127
Marble, tons	.....	277	.....	277
Mill Stones, tons.	.....	22	.....	22
Machinery, tons...	.....	276	.....	276
Malt, tons	.....	21	.....	21
Mech's Tools, lbs.	.....	2,264	.....	2,264
Nails&Spikes,tons	11	374	.....	385
Nuts, tons.....	.....	22	.....	22
Oats, bushels....	2,030,317	.....	.....	2,030,317
Oils, bbls.....	173	170	.....	343
Pork, bbls.....	9,938	38	.....	9,976
do. tcs.....	640	.....	.....	640
Powder, lbs.	2,370	191,339	.....	193,709
Potatoes, bu	2,514	386	.....	2,900
Pumps, tons.....	.....	78	.....	78
Potters' Ware, lbs	.....	1,200	.....	1,200
Posts, No.....	.....	16,350	1,113	17,463
Peas, bushels.....	.....	20	.....	20
Paper, reams.....	.....	.....	4,308	4,308
Rye, bu.....	17,015	300	.....	17,315
Reapers, No	479	.....	.....	479

SHIPMENTS from Chicago, &c.—Continued.

	Lake.	Canal.	G. & C. R.	Total.
Rice lbs	.....	15,019	.....	15,019
Saleratus, lbs.	1,300	110,000	.....	111,300
Soap, kegs.	20	7	.....	27
Skins, b'dles	426	.....	.....	426
Salt, bbls	4,259	27,457	22,248	53,964
do. sacks.	.....	402,746	.....	402,746
Sheep, No	10	.....	.....	10
Shingle Machines,	1	.....	.....	1
Steam Engines	2	.....	.....	2
Seeds, lbs	12,853	.....	.....	12,853
Sugar... "	.....	768,871	.....	768,871
Steel.... "	.....	34,559	.....	34,559
Stoves.. "	.....	25,349	.....	25,349
Sand.... "	.....	2,200	.....	2,200
Starch . "	.....	1,137	.....	1,137
Stoves, tons.	.....	747	.....	747
Sundries, pkgs.	2,078	.....	.....	2,078
do. tons.	.....	59	.....	59
Shingles, No	.....	41,920,538	13,930,500	55,851,038
Stone, c. yds	.....	24	.....	24
Tallow, bbls.	871	14	.....	845
Tobacco, hhds.	127	.....	.....	127
do. tons.	.....	59	.....	59
Turpentine, lbs	.....	5,017	.....	5,017
Timber, c. ft	.....	100,001	.....	100,001
Vinegar, bbls.	30	.....	.....	30
Varnish, lbs.	.....	3,792	.....	3,792
Wheat, bu	635,196	807	.....	636,003
Whiskey, bbls	647	.....	.....	647
Wool, lbs	920,113	.....	.....	920,113
Water Lime, bbls.	95	75	.....	170
Woodenware, lbs.	.....	1,597	.....	1,597
Wagons, tons	.....	206	.....	206
White Lead, lbs	.....	7,640	.....	7,640
Wood, cords	.....	19	.....	19

Tabular statement of Imports and Exports at Chicago, from 1836 to 1848 inclusive.

	Imports.	Exports.		Imports.	Exports.
1836	$325,203 90	$1,000 64	1843	971,849 75	682,210 85
1837	373,677 12	11,665 00	1844	1,686,416 00	785,504 23
1838	579,174 61	16,044 75	1845	2,043,445 73	1,543,519 85
1839	630,980 26	33,843 00	1846	2,027,150 00	1,813,468 00
1840	562,106 20	228,635 74	1847	2,641,852 52	2,296,299 00
1841	564,347 88	318,862 24	1848	8,338,639 86	10,709,333 40
1842	664,347 88	659,305 20			

FLOUR.—Total amount of Flour handled at Chicago, during the year 1852. Received from

Chicago and Galena Railroad	44,316	bbls.
Lake	2,875	"
Canal	1,846	"
Eastern Railroads	4,300	"
Manufactured in city	70,979	"
Total	124,316	bbls.

This amount would have been increased fully 50,000 barrels, but for the long continued drouth during four months of last year, by which over fifty run of stone were suspended on the Fox and Rock rivers, and the difficulty of getting a good article of wheat previous to the first of August.

Flour shipped from Chicago from 1844 to 1852 inclusive.

1844	6,320	bbls.	1849	51,309	bbls.
1845	13,752	"	1850	100,871	"
1846	28,044	"	1851	72,406	"
1847	32,538	"	1852	61,196	"
1848	45,200	"			

Comparative statement of Prices of Flour on the first of each month in the years 1851 and 1852.

	1851.	1852.
January	$2,75@4,50	$2,25@4,00
February	2,75@4,50	2,25@4,00
March	3,00@5,00	2,50@4,25
April	3,00@4,50	2,25@4,00
May	3,00@4,25	2,25@4,00
June	3,00@4,25	3,00@4,25
July	3,00@4,25	2,25@4,00
August	2,25@3,25	2,50@4,00
September	2,25@4,25	2,50@4,00
October	2,25@3,75	2,75@4,75
November	2,25@3,75	2,75@4,75
December	2,25@3,75	3,25@4,75

WHEAT.—The following are the sources from which the wheat marketed here last year, were secured, and the amount from each, respectively:

Chicago and Galena Railroad	504,996	bushels.
Canal	108,597	"
Lake	129,251	"
Eastern Railroads	13,003	"
Teams	180,749	"
Total	937,496	

The receipts from the lake were principally obtained at Michigan City, for the use of our city mills. The remainder came from St. Joseph, Niles, South Bend, Port Washington and other places. The general substitution of spring for winter wheat, by our Illinois farmers, has so reduced the supply of the latter quality, that our mills are compelled to buy abroad for a large portion of their first brands of flour.

The receipts here during the year, 1852, were disposed of as follows:

Shipped by Lake	635,196	bushels
" Canal	807	"
Used by Distillers	13,000	"
" Mills	288,493	"

The following is a statement of the ruling market rates at the commencement of each month of the year.

	Spring.	Winter.		Spring.	Winter.
January	31–42	50–65	July	37–39	68–76
February	37–45	50–70	August	40–43	65–70
March	35–45	50–72	September	44–50	69–75
April	34–40	60–70	October	48–56	60–72
May	34–40	62–72	November	55–60	66–75
June	34–40	68–76	December	56–60	70–80

The shipments from this port, for a series of years, are as follows:

1842	586,907	1848	2,160,000
1843	688,967	1849	1,936,264
1844	891,894	1850	883,644
1845	956,860	1851	437,660
1846	1,559,594	1852	635,496
1847	1,974,304		

One thing especially to be marked is our small receipts of wheat from the Illinois river. Of the amount received by Canal—108,597 bushels, not over 30,000 bushels came from the river. This result is not because there is no surplus grown in the counties bordering on that river, but because our market has not been able to compete successfully with that of St. Louis, where the milling demand is so great, that prices are usually kept up several cents above shipping rates. When the canal was completed, it was not doubted that we should receive a large part of our supply of this staple from a point south of Peru, but for the last two years, the entire amount has not been a twentieth part as great as that received by the Chicago and Galena railroad. Over 1,000,000 of bushels was shipped from the river to St. Louis, during the past year, and 964,134 the previous year. In 1849, however, about 500,000 bushels came through to this market, and this fact shows, that grain will go to that city or come through to this, as prices may rule relatively high at the North or South.

CORN.—The manner in which the corn received at this place, last year, was disposed of, is as follows:

Shipped east	2,737,011	bushels,
" to lumber country	29,000	"
Consumed in city	10,000	"
" by distillers	195,000	"
Total	2,981,011	

During the past year, corn maintained on the average, a very high figure. In the early part of the year, it was lower than usual, but the market steadily advanced during the season, and in November reached the highest figures paid in this market for fourteen years. We append a statement of the condition of the market on the first day of each month.

January	26–28	July	32–33
February	31–34	August	42–43
March	33–34	September	50–52
April	33–34	October	50–53
May	33–34	November	48–50
June	36–37	December	46–48

The above figures are for shelled, 56 lbs. per bushel.

The following table will show the shipments of corn from this port for a series of years:

1847	67,314	1850	262,013
1848	450,460	1851	3,221,317
1849	644,848	1852	2,757,011

OATS.—The increase of the oats trade for 1852 over 1851, was nearly 300 per cent., and more than doubly compensated for the falling off in corn. The receipts were derived as follows:

From Canal	833,703	bushels,
" Railroad	674,941	"
" Teams	581,297	"
Total receipts	2,089,941	

The shipments for the season, were 2,030,317 bushels. During the greater part of the year the market advanced steadily, and at the close of navigation was 13 cents above the prices paid in March, previously. The following will show the state of the market on the first of each month, during the year:

January	16–17	July	24–25
February	19–20	August	27–28
March	19–20	September	27–28
April	18–19	October	30–32
May	18–20	November	28–30
June	23–24	December	28–30

The shipments for the last seven years show an increase almost unequalled in the history of commerce. They were as follows:

1847	38,892	1850	158,054
1848	65,280	1851	605,827
1849	26,849	1852	2,030,317

BARLEY.—This article is not cultivated largely in Northern Illinois, and previous to 1850 there was not a supply much beyond the wants of our city brewers. In 1849, all of our surplus was sold and shipped to the St. Louis market, which was better than the Eastern. Until 1851, the entire shipments by lake did not amount to 1,000 bushels. The following is a statement of the receipts of the last year, and the sources from which it came:

From Canal	8,785	bushels,
" Railroad	90,243	"
" Teams	21,313	"
" Lake	1,687	"
Total	127,028	"

The shipments for the last four years show the following result:

1849 (South)	31,453	bushels
1850 (South)	21,912	"
" (Lake)	960	"
1851 (South)	11,460	"
" (Lake)	8,537	"
1852 (Lake)	70,818	"

A considerable portion of the amount shipped south in 1849, 1850 and 1851, was purchased in Wisconsin, where Barley is a more important staple than in Illinois.

HOGS and PORK.—The following statement of the number of hogs packed, and their average and total weight will give a clear view of the business of the last two years:

	Hogs cut.	Av. weight.	Total weight.
1851—52	22,036	238½	5,247,278
1852—53	48,156	211½	10,192,971

The following is a statement of the number of hogs received here during the past season, and the sources from which they came:

Canal.	Teams.	Lake.	Railroad.	Total.
413	12,500	900	51,845	65,158

Which were disposed of as follows:

Packed	48,156
Shipped East	11,000
Sold at retail	7,002

BEEF.—Number of Cattle slaughtered in 1852, 24,663
" " " " 1851, 21,806
" Barrels packed in 1852, 46,395

Average weight of Cattle slaughtered about 540 lbs.

WOOL.—Annual statement of the shipment of wool from 1842 to 1852 inclusive:

1842	lbs.	1,500	1848	lbs.	500,000
1843	"	22,050	1849	"	520,242
1844	"	96,635	1850	"	913,862
1845	"	216,616	1851	"	1,088,553
1846	"	281,222	2852	"	920,113
1847	"	411,888			

LUMBER.—A comparative statement of the amount of lumber, shingles and lath received at this port for the past six years, gives the following result:

	Lumber.	Shingles.	Lath.
1847	32,118,225	12,148,500	5,655,700
1848	60,009,250	20,050,000	10,025,109
1849	73,259,553	39,057,750	19,281,733
1850	100,364,779	55,423,750	19,808,700
1851	125,056,437	60,338,250	27,583,475
1852	147,816,232	77,080,500	19,759,670

POPULATION of Chicago at different dates:

1840	4,479	1848	20,023
1843	7,580	1849	23,047
1845	12,088	1850	28,269
1846	14,169	1852	38,733
1847	16,859		

VALUE OF REAL AND PERSONAL ESTATE.—The following is a statement of the value ef the real and personal property as found on the collector's books; but it must be remembered that these assessments do not represent much if any more than one-fourth of the real value:

1839	$1,829,420	1846	$5,071,402
1840	1,864,205	1847	6,189,385
1841	1,888,160	1848	9,986,000
1842	2,325,240	1849	7,617,102
1843	2,250,735	1850	8,101,000
1844	3,166,945	1851	9,431,826
1845	3,669,124	1852	12,035,037

LITERARY DEPARTMENT.

Valley of the Ohio.

ITS CONQUEST AND SETTLEMENT BY AMERICANS.

BY MANN BUTLER, ESQ.,
Author of the "History of the Commonwealth of Kentucky."

The region in question, was so plainly within the natural and probable expansion of the British colonies—so directly in the current of their increase, as reasonably to forbid, by all the interests of civilization, any other civilized people from interrupting their natural course. Nor could this principle of actual occupation as between France and England be fairly urged to extend the French trading posts, at Vincennes and Kaskaskia, to embrace a country so remote from them. The fleeting and partial occupations in the heart of the Indian country by the French, could not reasonably be alleged to stop the continuous progress of the British settlements, a thousand miles apart; however, they might be extended to the surrounding country on the Wabash and the Mississippi. The obvious interests of social progress and improvement, the diffusion of arts, learning and religion, in fine, the paramount claims of the civilization of the world condemn so unreasonable an abuse of the principle of occupation. Both these great European powers, then the arbiters of the civilized world, adopted measures to assert and maintain their claims to North America west of the Alleghanies, in despite of the treaty of Aix La Chapelle, so recently concluded in 1748. By it, "the boundaries between the British and French provinces in America were left unsettled, neither party acknowledging the right of the other, to the basin of the Penobscot, or of the Ohio."* In pursuance of this policy on the part of the French, the Governor of Canada directed the erection of forts at Presq' Isle, on Lake Erie, at the head of French creek, or Le Boeuf, about fifteen miles from the lake, and a third at the mouth of French creek, called Fort Venango. Nor were the British much behind their ancient European rivals, in occupying this cradle of a mighty empire. The year after the peace of Aix La Chapelle had been concluded between the two crowns, a land company, denominated the Ohio Company, obtained from the Privy Council of Great Britain an instruction to the Governor of Virginia, to grant it 500,000 acres of land on the Ohio river, in the heart of the disputed country. This company shortly after obtaining its grant of territory, employed *Christopher Gist*, better known as the fellow traveller and guide of Washington, "to explore the country, examine the quality of the land, keep a jour-

* III Bancroft p. 466, 7th edition. And Olden Time, 2d vol., 140, 267, 274. Pittsburgh, 1848.

nal of his adventures, draw as accurate a plan of the country as his observations would permit and report the same to the Board."

On a second route, which this adventurous agent undertook, in 1751, he descended the Ohio to the Falls of that river, and ascended the Great Miami, to a town of the Twightwees on the Miami, one hundred and fifty miles from its mouth.* Gist spent the winter of 1751 in exploring the country and reconciling the Indians to the extension of their formidable neighbors, on the western sides of the great mountains, which had scarcely kept them apart. On the 18th of June, 1752, some of the northwestern tribes agreed with Va. commissioners, not to disturb any settlement that might be made on the southeastern side of the Ohio river. This was called the treaty of Logstown, from an Indian village some seventeen miles below the head of the Ohio where it was negotiated. It is the earliest I can find negotiated between our countrymen and the northwestern Indians respecting the western country. There had been a treaty formed at Lancaster, in Pa., as early as 1744: but the Indians insisted that its grants of territory were limited to the eastern side of the Alleghany mountains. The Indian chief said "they had not heard of any sale west of the warrior's road, which ran at the foot of the Alleghany ridge."† Notwithstanding this remarkable protest of the western Indians, on the 13th of June, 1752, they consented to a treaty confirming the treaty of Lancaster in 1744, and to the establishment of a settlement southeast of the Ohio, guaranteeing, that it should not be disturbed by them. In consequence of this treaty, Gist, who had been appointed the company's surveyor, proceeded to lay off a town at Shurtee's, or more properly, Chartier's creek, a little below the present flourishing, ingenious and industrious city of Pittsburgh, on the east side of the river. What became of Christopher Gist, after these adventurous services, scarcely second to the much more famous Boone, is unknown. It is, however, no mean fame, to have been the very earliest known colonial explorer of the western country, and the guide of the illustrious Washington.

These advances of our countrymen did not escape the watchful eyes of the French: they were quickly followed, by the erection of the posts previously mentioned, on the waters of the Alleghany river.

In 1752, Major Washington was sent by Gov. Dinwiddie (guided by Christopher Gist), to remonstrate against these military encroachments, on what was deemed British dominion.

In pursuance of this commission, Washington penetrated to the posts of the French at Venango and Le Boeuf. There he received

* Spark's Washington, II, p. 480. Col. Hist. of Marshall p. 281. Pioneer History, p. 26. Cin. 1848. This is probably the earliest official memorial of the western country written by our own countrymen. It is due to the scrutinizing scholarship of the indefatigable biographer of Washington, that this ancient memorial of the West has been brought to light. The original is said to exist among the Mercer papers in Va.

† Annals p. 55. Olden Time 1 vol., p. 294. Pittsburgh, 1848.

an indecisive answer from the commandant of the latter post, M. St. Gardeur St. Pierre, and returned with it to the Governor of Virginia, accompanied by a report of this most adventurous trip, full of evidence to the hardihood and bravery of its author. A noble model to excite the emulation of his young countrymen, for whose freedom and rank among the nations of the earth, Washington labored so early and so late.

On learning the result of this mission, and that the French were making these hostile demonstrations, in the valley of the Ohio, claimed by England, ostensibly, in behalf of her ancient allies, the Six Nations, the British government issued orders to the Colonial governors in North America, to maintain his majesty's rights to these regions at the hazard of the extremities of war.

Yet notwithstanding these two distinguished nations were ready to go to war, and shortly did so, neither the one, nor the other was the proprietor of these fair and wide regions. The nations of the forest, whose ancestors for ages might have lived upon these lands, and who were themselves the actual occupants of them, at the time of these disputes, were the proprietors. Their title derived from the God of savage, as well as civilized man, seems to have been almost disregarded, by these foreign and civilized competitors, any farther than the merest military policy of the moment might dictate.

The French claimed the valley of the Ohio, by virtue of the ancient explorations, made by the expeditions of Marquette and Joliet, and also by La Salle, through the lakes down the Mississippi; and, as the court of France alledged, down the Ohio in 1739.

"The English," said the Duke of Mirepoix, the French negotiator at London, "have not any settlement on that river (the Ohio), and when the British ministry asserted that the heads of that river were full of ancient settlements of their nation, they too readily gave credit to false relations. The French have ever looked upon that river, as belonging to Canada, and it is essentially necessary for the communication of Canada with Louisiana. They have frequented it, at all times and with forces. It was also by that river, that the detachment of troops passed who were sent to Louisiana, about the year 1739, on account of the war with the Chickesaws.*

These assertions were all either contradicted, or if admitted, were denied to have any validity against Great Britain. "What the court of Great Britain asserts and insists upon, is, that the five Iraquois Nations, acknowledged by France to be dependants of the British crown,† are either originally, or by right of conquest, the lawful proprietors of the territory of Ohio, in question. And as to that part of the territory, which these people have ceded

* Memorial delivered to the British ministry, May 14th, 1755. Olden Time, II vol., p. 264.

† By the treaty of Utrecht in 1713.

and transferred to the British nation (which must be acknowledged to be the most lawful and equitable manner of acquiring it) they claim it as their property, which they have not ceased to cultivate for twenty years and more; and upon several parts of which they have formed settlements from the very sources of Ohio, as far as *Pichac-Villiams*, which is the centre of the territory situate between Ohio and Ouabache."* Washington's Journal (London, 1784,) has a map on which this name is printed *Pickawalinna.* The name is possibly some variation of Piqua or Pickaway, in 1773 written by the Rev. David Jones *Pickaweke.*† It was the same spot on the Great Miami afterwards called *Loramie's Store;* it is constantly referred to, in the treaties between the U. S. and the northwestern Indians.

Such is a brief summary of the pretensions of these European rivals, to the valley of the Ohio. It may, after the lapse of a century, be matter of some amusing speculation, to review this strife of cabinets, and conflict of embassadors. The French government offered to "stipulate that all the territory between the Ohio and the mountains which bound Virginia, shall remain neutral, and that all the commerce in, or passage through the same, shall be prohibited, as well to the French as the English." That government further proposed "to destroy within the space of six months, to begin from the date of the present convention, or sooner, if possible, all forts built upon the peninsula, in the Lake Erie and upon the river Au Boeuf and Ohio."‡ Special lines for the neutral ground were proposed on the part of France to run from the eastern side of the Bay of *Cauagahoqui*, (possibly Cayahoga) upon the southern shore of Lake Erie, directly to the South as far as the fortieth degree of North latitude, and from thence continued along the said river to its confluence with the Ohio, and from thence continued to the South-west till it touches the thirty-seventh degree of North latitude. And also that a line to begin from the mouth of the river Miami (now Maumee,) on the south side of Lake Erie, be drawn to the South or South-west as far as the source of the Ouabache (Wabash or Saint Jerome,) and from thence continued along the said river, to its confluence with the Ohio, and from thence in a straight course as far as the above mentioned thirty-seventh degree of North latitude."‖ This would have given a neutral ground between the Province of Pennsylvania and the French settlements on the Wabash, embracing the present States of Ohio and Indiana. Had this neutral ground been agreed upon, it could only have suspended the progress of our countrymen for a few years; while they gathered strength for a new irruption. The great torrent of civilization could have been stopped by no government. Its march is indeed over the mountain, and its home in the depth of the wilderness.

* Olden Time, II vol., p. 275. Annals of the West, p. 54. † Cist's Cincinnati Miscellany, 1, 265. ‡ Olden Time, pp. 268, 256. ‖ Olden Time, p. 256.

FROM THE GERMAN OF JEAN PAUL.

Wandering Aurora.

When man, for the first time, saw the shining morning-red of Heaven, he took it for the sun, and exclaimed: "Be greeted, with roses superabundant Phoebus, on thy large glowing chariot!"—But soon the sun-god stept out of the rose-bush, and before the long glance of day shook off the early roses of Aurora.

Behold at evening when Apollo's chariot in the ocean sinks under the waves, and returns not to Heaven as Aurora's chariot full of roses, then man revolves the error of the morning and says: I know thee, beautiful spring in the Heavens, thou only leadest the sun away, but thou canst not wholly! And he longed for the sun, and took the evening star for the morning star, and the evening wind for the morning air.

But he longed in vain—the star of love mounted no higher, but sunk from cloud to cloud—the rosy chariot left only a few pale buds rippling on the ocean, and led the earth along deep-wading and sinking into the cold midnight—touched by the death-fingers of frost.—"Now know I thee, tomb-robber,"* said the man, "thou drivest Phoebus, the beautiful youth away through the sea into Orcus!" And weary and disconsolate he closed his gloomy eyes.

Awake, double dreamer, and behold on the glowing morning heaven, Aurora again courses through her wide rosy plains, and the eternal youth, Apollo, following glides along upward with hands full of morning rays.

And awake, thou also, deeper dreamer, thou who observest the Aurora of the history of mankind in the West, and contemplatest the evening-red at first for the morning-red, and awaitest the rising of the sun—and art faint-hearted, because it wanders about veiled towards the North!—Awake, for it comes again in the morning, and every time to a longer day.

* The ancients ascribe the death of the young to the captivation of Aurora.

SENSE AND ACTION.—Many flowers open to the sun; yet only one follows him constantly. My heart! be thou the sun-flower; be not only open to God, but also obey him.

GRIEF AND JOY.—Great souls attract affliction, as mountains attract the tempest; but the storm is also broken by them, and they open the clouds for the plain.

One of the great aims at which Goethe directed his genius, was the union of humanity with super-humanity. With a strong and comprehensive common-sense, he imbued the sensuous nature of those around him with his ideal emotions. He was a master spirit, and invoking the spirit of his time, he raised it, and drove it energetically to work in the development of the resources of the mental and moral world. He was no revolutionist of public opinion. He was an artist of life—of intellectual and moral life—he worked them up into models of eternal propriety. He was a moulder of mind and emotion. He took the materials of the sensible and spiritual world as he found them, and triod to turn them to the best practical account. Even at a convivial party, he mingled with the levity of the occasion, his noble principles of progress.

We are pleased to receive translations from this author, and are doubly endeared to our cordial correspondent for the genial spirit manifested in the following introduction.

St. Charles, Febr. 16th, 1853.

Mr. Cobb.—Dear friend; so I call you, because I have a friendly feeling toward you. I offer you my friendship in order to be requited by yours, and I wish to become dear to you, as you are dear to me.—Now to my purpose: lately, by some sudden inspiration, I felt induced to give to that celebrated "*Table-song*" by Goethe an English garment. This song has always been a great favorite with me. You may imagine a not too large number, [perhaps nine, the number of the Muses] of congenial friends, mixed with handsome wives and girls, seated around a neat supper-table, a frugal but delicious supper to every-one's taste upon it, and a crystal-goblet before each guest, with the proper number of bottles containing the best sorts of wine; a banquet in a very Anacreontic style. Then, when all, men and women, are enjoying to a high degree the pleasure of eating and drinking, and of a witty and spirited conversation,—the poet, animated by the scene, gives an extemporaneous outbreak of his inspiration, concentrating therein all the most cherished feelings or sentiments of the assembled guests—and you have Goethe's Table-song.

This my translation in corresponding English verses I take the liberty to send to you, together with the German text. Perhaps you too may feel affected by this beautiful canticle; if so, please put your file to my work, to make it quite correct and as euphonious as possible; for I, in translating Goethe's stanzas, and endeavoring to mould them into the same meter have been careful chiefly to render the real sense, almost verbally. One thing under such condition, was to be given up, at least by me, vix: the rhyme; although to be pitied, it was not to be helped, or

the whole frame must be transformed, and other more important beauties would have been sacrificed. I have also a very suitable and expressive music to it, which, if you like, I could send to you too. Respectfully, yours, *

TABLE-SONG.

From the German of Goethe.

Seized I am, I know not how,
By a heavenly feeling.
Will it waft me to the stars,
Angels bright revealing?
Yet I love to linger here,
Truly, 'tis no fable,
With good friends and songs and wine,
Raptured 'round the table.

Wonder not, my gentle friends,
Though my thoughts alarm me:
For it is this lovely world,
That doth truly charm me;
Therefore solemnly I vow,
And without condition:
I'll not wrongly quit this world,
What e'er my position.

But while we, a joyous band,
Here have met for pleasure,
Let us touch the goblets-touch,
To the poet's measure.
Friends are often called away,
Miles and miles are parted;
Therefore we'll embrace this hour
Warmly and true hearted.

Now I'll greet with all my soul,
Mine own and mine truly.
Let each, courtly, think of his,
Of his own most duly.
Does a lovely one now know,
Who my heart is filling;
Let her gently nod to me:
Yours to be I'm willing.

Friends, though few, the second glass
Shall to you be offered,
Who to us on other days
Have good favors proffered,
And the misty cloud of gloom
From the pathway driven;
Let to these, or old or new,
Lofty praise be given.

Broader swells the stream of life
With increasing billows.
We will live in truest style,
Honest hearted fellows!
Who with strong united force
Bravely keep together
In good fortune's sunny hour,
And in hapless weather.

As we here, in our own way,
Others seek enjoyment;
Let good fortune crown each one,
Each in his employment.
From the source on to the main
Many works are thriving,
'Tis the welfare of the world,
At which I am driving.

Mich ergreift, ich weiß nicht, wie,
Himmlisches Behagen;
Will's mich etwa gar hinauf
Zu den Sternen tragen?
Doch ich bleibe lieber hier,
Kann ich redlich sagen,
Beim Gesang und Glase Wein
Auf den Tisch zu schlagen.

Wundert euch, ihr Freunde, nicht,
Wie ich mich gebehrde;
Wirklich ist es allerliebst
Auf der lieben Erde.
Darum schwör' ich feierlich
Und ohn' alle Fährde,
Daß ich nie mich freventlich
Wegbegeben werde.

Da wir aber allzumal
So beisammen weilen,
Dächt' ich, klänge der Pokal
Zu des Dichters Zeilen.
Gute Freunde ziehen fort
Wohl ein hundert Meilen;
Darum soll man hier am Ort
Anzustoßen eilen.

Nun begrüß' ich Sie sogleich,
Sie, die einzig-Eine.
Jeder denke ritterlich
Sich dabei die Seine.
Merket auch ein schönes Kind,
Wen ich eben meine,
Nun, so nicke sie mir zu,
Leb' auch so der Meine!

Freunden gilt das zweite Glas,
Zweien oder Dreien,
Die mit uns am guten Tag
Sich im Stillen freuen,
Und der Nebel trübe Nacht
Leis' und leicht zerstreuen;
Diesen sei ein Hoch gebracht,
Alten oder Neuen.

Breiter wallet nun der Strom
Mit vermehrten Wellen.
Leben jetzt in hohem Ton
Redliche Gesellen,
Die sich mit gedrängter Kraft
Brav zusammenstellen,
In des Glückes Sonnenschein
Und in schlimmen Fällen.

Wie wir nun zusammen sind,
Sind zusammen Viele.
Wohl gelingen denn, wie uns,
Andern ihre Spiele!
Von der Quelle bis ans Meer
Mahlet manche Mühle,
Und das Wohl der ganzen Welt
Ist's, worauf ich ziele.

THE PLAINS,

By FRANCOIS DES MONTAIGNES, of St. Louis.

CHAPTER SIXTH.

Wherein Francois discourseth learnedly concerning the Sahara desert and the Bedouins.

"With club and war-cap, lance and bow,
And tomahawk for lurking foe,
With feathers, leathers, paint and dirt,
Beads, moccasins and hunting-shirt."

BAPTISTE DES ROCHERS.

Our camp at this spot was again favoured with a visit by several of the Shawnee hucksters of the neighbourhood who brought along with them, in addition to their better halves, whatever small quantities of vegetables and butter they could conveniently spare for cash, and as this latter commodity was rather scarce among the democracy, the trade in these luxuries became a monopoly; business being brisk only at the marquée, and all speculation by outsiders as to the quality of Shawnee manufacture compared with Western Reserve, forever annihilated by one dollar in cash and one fell swoop of the Cook.

After leaving the wooded borders of Missouri, — the Santa Fé Road or Trail (as it is called by the traders), traverses many beautiful and lovely spots; but, as it advances towards the mountains and ascends the highlands which form the dividing ridge between the several tributaries of the Missouri, the Missisippi and the Del Norte, such spots become *Oases*, and are few and far between: the great elevation of the country causes its waters to flow off, as suddenly as they emerge from the mountains, and that which is not lost in the sands is soon absorbed by the dry and thirsty atmosphere.

Council Grove, 145 miles from Independence, constitutes the great point of Division, the grand Natural Hedge between the arable and timbered lands along our frontier and the barren Llanos or plains of the Great West,—those wide and desolate wastes upon whose scanty and threadlike creeks vegetation seems to pause, whilst its representatives the delicate willow and the moaning cottonwood seem to denote by their rare appearance, the only spots within the landscape where it can eke out at best, but a precarious existence.

The hitherto gently undulating surface becomes flattened down into monotonous plains, and beyond the line of demarcation I have mentioned, the long coarse grass over which we have been travelling, seems suddenly to have been mowed or cropped by some immense herd; the shady camping place beneath the spreading elm or oak is changed to the noon-halt in the middle of a hot and parched prairie,—the boisterous spring-creek no longer rattles over the pebbles, its mossy banks have been covered by sliding sands, filling up its little channel and drinking its limpid waters, whilst the vines, which wound around the trees, and the birds, which sang among the branches, are items no longer to be found in the landscape. The short crisp buffalo grass,—the cactus, and the strange cry of the prairie dog and the burrowing owl,—the antelope, the horned frog and the rattlesnake denote that an important alteration has taken place, not only in the physical, but in the vegetable and animal attributes of the entire region.

But what is still more worthy of note is the remarkable change which seems to take place in the inhabitants themselves of this queer portion of our country: as the ground gradually increases in elevation, the strange people, who roam over its surface, seem to degenerate accordingly; and as we mount foot by foot from the border to the high table lands or plateaux of the Arkansas and Red Rivers, several thousand feet above the level of the sea, we will discover that the Delaware of our line, the Shawnee huckster with his butter,—the thieving Kaw at 110, and the restless Arapahoe who knows as much about the manufacture of butter, as a Shaker does about the proper time to jump up and yell in a scalp dance, are but so many marking pins or points in this chain of demoralization or degeneracy:—the gradually fading Civilization and growing Barbarism of each being as evident to the traveler as the figures upon a levelling staff,—or the barometer which denotes the increasing elevation.

Whether or not atmosperic pressure has a tendency to encourage the evil propensities of man's nature, is a question too profound for us to touch upon, and had we, among the balance of our *savants*, a moral philosopher to crack this nut, we would certainly make a present of the valuable kernel to the obliging reader, and reward our learned friend for his trouble by a note at the end of our chapter.

To tell the truth, the Delawares and other tame Indians along our border are as much superior to the naked and graceless Savages farther west, as the enlightened white man is to them.

There is a certain tact, united with much bravery in the Delaware especially, which renders him an invaluable companion on the plains,—and in the capacity of hunters or spies they have no superior Several of this nation were attached to our expedition, and fine fellows they were: But more of this hereafter.

Forever on horseback,—forever at war,—roaming restlessly from one portion of the country to another in search of the Buffalo which supports him,—acknowledging no superior power to that of his band,—robbing all who may venture through his inhospitable stamping grounds, and murdering the defenceless who may be so unfortunate as to fall within his power, the wild Indian of the American Prairies is a dangerous and implacable neighbour. Cunning, brutal and treacherous, he possesses none of those attributes with which Romance so readily invests the Indian character: Reality exhibits the wild Savage of the Arkansas,—half Centaur, half Demon, living but to kill and eat: His humble and servile companion, the Squaw, cures his meat and cooks it, builds and moves his lodge, obeys his every nod, whilst his arms, his ornaments and his Horse engross every feeling of which his breast is capable.

The Indian warrior's reputation is proportional to the number of human scalps he is able to produce, and though there are no taxes to be paid in his country, he evinces as much sangfroid and satisfaction in the possession of a number of these awful trophies, as that experienced by a certain friend of mine in the backwoods, who, being called upon once by the Sheriff, for the settlement of a certain account, produced a round dozen of veritable wolf scalps, legal currency of the county, in payment thereof.

Although our friends, the Kaws, may be fine fellows,—having farms and cattle, a blacksmith or so, an agent and all that, together with some ten thousand dollars as an annuity regularly divided among them, we explorers may just as well keep wide awake from this out, and watch our chattels with one eye, whilst we scan the horizon with the other; each turn of the road or change of landscape may reveal the presence of some ugly war party, belonging to some or other tribe of these notorious scoundrels on the look out for red paint and tobacco: For we are now penetrating the land of Ishmael,—the home of the Bedouins,—the Arabs,—the Tartars of the Western Hemisphere, not one of whom is too modest to rob you of every rag, and then ease you of all worldly cares by taking your scalp, for the simple gratification of seeing it stretched on a hoop and afterwards dangled on a ten foot pole

It is perfectly immaterial to what nation they may belong; we have launched our craft on an ocean infested by none but pirates and whether these be Arapahaos or Apaches, Kiowas or Camanches, Cheyennes or Pawnees, it all amounts to the same thing, for notwithstanding that there are grades in the profession, and the Pawnees have established their reputation as the bravest tribe that ever existed, by their extraordinary success in the thieving department, it is but justice to the balance, to inform the reader that each and every one of them, are remarkable thieves extremely well posted up, and quite expert in every department appertaining to the art, as will be more fully inferred hereafter.

The unwary traveller, therefore, may be robbed and cut off, in a moment unawares; for the prairie savage starts up like a grey wolf, apparently from the very ground, and until the journey is complete, no vigilance is to be omitted, no precaution forgotten, no animal left unpicketed or unguarded, lest at the very moment of fancied security, he hear the unearthly yell—the shrill whoop and the galloping of many horses in one simultaneous and ruinous stampede.

Perhaps, aye perhaps it is some rich caravan of merchandise crossing these inhospitable regions: the trader who owns the argosy,—the drivers and muleteers who tend to its transportation,—the very cattle who draw it, slumber silently upon the prairie; when, a quick shout, the twanging of bowstrings, the gleam of lances, and the report of fire-arms mark the conflict for life; a scene which has happened more than once and too frequently connected with circumstances of the most apalling character.*

* The train of James White, of Independence, Mo., was attacked at the Point of Rocks, by a party of Apache Indians, and the entire company barbarously murdered and scalped, ex-

The generous reader will readily pardon the above wide digression from the even tenor of the route we have marked out, and forgive us for speaking ill of our Indian neighbours; but, as we have nothing to do with the tame and civilized portion of humanity, at present, we will refer the curious enquirer to Cicero de Officiis, to ascertain how far we have transgressed in this respect, and after bidding adieu to the worthy Shawnees, the last remnants of civilization, which we will have the pleasure of encountering in our explorations for some time to come, will proceed to transport our reader, at a moderate pace, over a portion of the Santa Fe road, which *we* found to be extremely rough and far more beautiful in perspective than when viewed without a telescope.

A beef was butchered at this camp [which I shall here designate by way of distinction, *Camp Monopoly*], and the several quarters thereof apportioned out among the various messes, to dispose of as they should deem expedient; that is, either cook and eat it all at once, and have a big starve afterwards, or cut it up into slices and slightly cure it over the fire or in the sun for future use.

Our mules were generally in harness by sunrise, and we now began to perform an average day's journey; the green hands were gradually being initiated in the duties of explorers,—the mules discontinued the most of their pranks, and we jogged along as briskly as the nature of the country permitted.

There were some few delays,—but these were unimportant and were owing to that peculiar camp etiquette which required the observatory and captain continually in front, with the *corps-des-aids*;—viz: pilot, cook, campmaster, etc.—Then the waggons, then the loose mules and horses, and then,—and lastly, but not least, the loafers, or in other words, the Explorers:—a requisite arrangement which frequently prevented as early a start as might otherwise have been made. Sometimes it would be one, sometimes another, who would not be ready—sometimes *this* waggon, and sometimes *that*, sometimes the captain, and sometimes the cook.

Taking, therefore, the dividing ridge of the Kansas and of the tributaries of the Osage for our route, we will proceed at a lively pace over the delightful country lying between Camp Monopoly and Council Grove; not however without bestowing a glance at the various points of interest along the route, and mentioning whatever appertains to each which is worthy of note in these our memoranda, or particularly interesting to the reader.

The information thus volunteered in the shape of scattered and desultory items, will be the better appreciated by the reflecting reader, when he muses a moment upon the numerous circumstances which prevented any curiosity on the part of Francois as well as other explorers, concerning localities along the route, if they did not prevent him from knowing any thing at all, either with respect to the places passed or to be passed.

In other words, the majority of the exploring squadron were sailing in the dark;—*going it blind*;—and it was no rare thing, to hear one asking the whereabouts of places, left far in the rear; frequently some famous spot, some rare place, upon which the eye would have loved to linger, if only for a moment, whilst the fancy invested it with associations corresponding to the impulses of the heart, with the firm conviction that the picture was in view for the first and last time. Such for instance as the Council Grove and Pawnee Rock: two places of great interest on this route, but which, to the eye of the traveller uninformed of their exact *latitude* and *longitude*, would only present the appearance of a richly timbered bottom, and the cropping out place of a range of yellow sandstone Bluffs.

This ignorance of every thing connected with the route and the region came to be considered rather a virtue than a vice, and there is no doubt, but that Fran-

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cepting Mrs. White and her infant daughter. This unfortunate lady was reserved by the savages for a far more horrible fate, and could her sufferings be realised by the white man who reads the mere detail, his hair would stand on end, and the red man's cause be forever lost in the feeling of revenge. I was well acquainted with Mrs. White, and saw her in our city just previous to her departure, full of sanguine expectations of the pleasures she would derive from that journey which has ended in so awful a manner. Though the United States government offered large rewards through its agents and officers, and private individuals, amongst whom several humane citizens of New Mexico were prominent, and used every endeavor called for by the emergency,—to effect the rescue of the fated prisoners,—the troops who came upon the halting place of her captors, found but an emaciated shattered wreck of what once had been a delicate and refined American female: barbarously mangled and murdered, the blood still oozing from the wounded heart.

REQUIESCAT IN COELO! *F. Des M.*

cois himself would have been promoted *sua ignorantia rara*, to the highest post within the gift of the scientific few, had he not at an unpropitious moment,—confessed having seen savages before, and heard a stray remark concerning the existence of Bent's Fort previously to encamping beneath its walls.

The reader must not suppose from this, that the fact of his not being able to ascertain the names of the creeks, springs, camps, rocks, buttes and peaks along this interesting route, deterred him from dotting down a sufficiency of hieroglyphics of various outlandish forms, to enable him afterwards to locate every spot on the road, by the marvellous association of dot and incident. This method, which by the way I would recommend to the notice of such explorers in future, as may be compelled to make their reconnaisances and descriptions in a hurry, has enabled me with the assistance of Fremont's map, and the corrections thereto by several veteran mountaineers and trappers of my acquaintance, to locate every dot and cipher, with so much certainty, that if latitude and longitude fail to be mentioned, *miles* will frequently be introduced in default thereof, and a backbearing taken to the camp last left, in case of the least doubt, as to the correct course.

Elm Grove consequently, as the starting point of all western bound individuals, whether it be the Santa Fe trader with his train of teams laden with merchandise for the Mexican markets,—the mountain trader with his pack animals and carts, transporting beads and brandy among the savages, the California or Oregon emigrant with his family, his cattle, his all,—or the unsophisticated explorer with his ten pounds of clothing and tobacco, destined for nowhere in particular, occupies as it should, the first niche which we have all along reserved for it in this edifice of sunburnt memoranda, and shall continue there, as long as these our poor pages last, or the memory of its ancient and solitary tree continues green.

In days gone by when the trade with New Mexico was in its infancy, and the California fever unknown as a *universal* epidemic [if the expression can be tolerated] the *Horse-Shoe-Bend*, which Elm Grove occupied, was fringed with timber, and a thick undergrowth of willows presented a sufficient contrast to the smooth prairie round about, to justify those who sought its shade at noon, or its wood and water at night, in bestowing upon it the pleasant sounding title of Elm or Round Grove.

The unceasing passage of thousands by the spot, and the wanton axe of the white man fresh from the heavy hickories and oaks of the border, thinned and trimmed Round Grove by degrees until now it would be a matter of doubt, to say whether the single lone tree which has stood so long the representative of the grove still bends over the little pool at its feet, or has been offered as a sacrifice to the manes of its fellow Elms of yore.

We will not stop to lament over the matter; the little willows which are there, will, if spared, act as mourners over the ashes of this last *nail* of the ancient *Horseshoe.*

We will proceed on our route.—About twelve miles from the Lone Elm, the trail crosses a little creek bearing the euphonious name of Bull Creek, which by some misguided explorers, has been confounded with Pool Creek, still farther west. Whether the discrepancy is owing to the fact that Bull Creek is but a pool, or to a prejudice against calling things by their right names, we will not tarry to argue; for the creek deriving its name doubtlessly from a great battle having taken place near its banks, in ancient times, between several celebrated buffaloes, is certainly entitled to all the emoluments thereby deserved.

Passing onward through *Black Jack Grove*, on *Black Jack Creek*, [for water courses now begin to be called after the timber which shades them], we cross *Willow Spring* and *Rock Creek*, two small tributaries of the Kansas, and rein up, for the present, at *One Hundred and Ten*; the first water of the Osage, or as laid down by some, *The Marais des Cygnes.*

The astounding fact of this spot having once been exactly one hundred and ten miles from old Fort Osage,—at present Sibley,—on the Missouri river, has occasioned this nomenclature, pretty much upon the same principle, that the world is called round from the circumstance of its being nearly so.

Premising that we are now advancing within the range of the Kaw or Kansas Indians, a good-for-nothing and thievish race, we will cross, with but a slight deviation from a westward course, *Bridge Creek, Switzer's Creek, Fish*

Creek, which is conceded by all hands as eighty-eight miles by the viameter from cantonment Leavenworth, and *Pleasant Valley Creek*; winding up an imaginary journey of fifty miles or thereabout, by camping at the famous *Big John Spring*, which gives rise to a creek of the same name, running into the *Neosho* or *Council Grove Creek*, sometimes called *Grand River*. There is a *Little John* also to the right of the road, before you reach the Robin Hood of the place, the main and lower spring, but as it is a modest and unpretending fountain making but a small noise in the world, compared with its boisterous and more public neighbour, its icy and limpid waters flow away through the shady wood unnoticed. Like a poor boy at a frolic, it performs its dancing in a corner, and joining Big John Creek, becomes lost in the union, and gives its mite to the Neosho, without even having its name mentioned as a contributor. It is sometimes called *Bluff Creek*. It and the Big John both, lying under a little bluff to the right of the road, the latter within a few steps, and presenting to the thirsty wayfarer a temptation to tarry and partake, which is seldom in vain. Shady trees overhang the very fountain, and the icy water as it rushes from the rock, deposits a snow-white sand, increasing its transparency and diamond like lustre.

Six miles from this beautiful spot, we see the heavy timber of Council Grove, the last place too, where we will see it, until reaching the mountains. Here we have the terminus of the meadows over which we have been so pleasantly promenading, for the long grass appears to make a halt, making its appearance beyond only in the creek bottoms and similar places, whilst the short, crispy buffalo grass, or *Sisleria dactyloides* of the explorer, becomes sole tenant of the soil, and seeks nourishment from the niggardly soil, only to support the lazy lord of the manor, the wandering non-resident buffalo.

Here again is a curiosity in a nutshell. This gigantic animal of the American plains, though no elephant or mastodon, certainly requires an amount of nourishment commensurate with his frame and his habits, and how he manages to procure it in these barren places, upon the short grass alone, affords an interesting subject for inquiry not only to agriculturists and stock-growers, but to explorers. We have seen some of the fattest buffaloes killed in the most untillable and bare districts of the Canadian, places where cattle driven along for beef, have been left behind as too emaciated to travel, and too remote fromricher soil to suppose that the animal had made a hearty meal thereat, previous to a hasty and lenghty journey. That the buffalo is enabled to crop or shave the grass to the ground, and that the grass itself is more nutritious than other grasses, there is not much doubt, but it appears likewise to have been created and placed especially for the consumption of this peculiar animal, to exist only so long as the necessity exists, and to make its exit, when the buffalo has ceased to roam over the plains, where it at present grows. When, at some remote day of the future, a clump is discovered by the searching professor, he will place it in his collection with all the pride of a savant, and pore over and over again, with renewed pleasure, the ancient botanical descriptions of the curiosity which we, of this age of brass, denominate only by the short title of *Sisleria dactyloides*.

How in the world, so long a name, was presented to so short a vegetable, we leave to Linnaeus and the root doctors, but had the length of the vegetable itself been left at the option of the parties most interested, the buffalos, there is good reason to believe that they would have chosen the grass longer, even at the risk of curtailing the name.

Having expatiated this much upon stock growing and agriculture, of which we know nothing, thereby leaving the reader as well informed on these important subjects, as he was at the start, we will proceed to look around us, with the hope of discovering where we are, and conjecture to wich point of the compass, we will probably steer hereafter.

VIRGIL.

From the French of Voltaire.

No reliance is to be placed upon the life of Virgil which is to be met with at the head of many editions of the works of this great man. It is filled with puerilities and other ridiculous stories. Virgil is there represented as a species of farrier and seer, who devines that a colt, which had been sent to Augustus, was born of a sick mare; and who, having been interrogated as to the secret of the birth of the emperor, answered that he was the son of a baker; because the emperor had not, up to this time, recompensed him save in rations of bread. I know not by what fatality it is, that the memory of great men is almost always disfigured by insipid stories. Let us rest satisfied with what we know of a certainty touching the life of the subject of this essay. The immortal poet was born in the six hundred and eigthy-fourth year of the foundation of Rome, in the town of Andes, at the distance of one league from Mantua, under the first consulship of Pompey the great and of Crassus. The Ides of October, which were the fifteenth of this month, became forever celebrated by his birth: "Octobris Maro consecravit idus," says Martial. He lived but fifty-two years, and died at Brundusium, as he was travelling into Greece, for the purpose of giving to his Aeneid, in literary seclusion, the last finishing touch. He had already been occupied eleven years in the composition of that immortal work. He is the only one of all the epic poets who has enjoyed the fruits of his reputation during life. The suffrages and friendship of Augustus, of Maecenas, of Tucca, of Pollio, of Horace, and of Gallus, contributed, without doubt, not a little, to direct the judgment of his contemporaries, who perhaps otherwise would not have been inclined to render him justice so soon. However, such was the veneration in which he was held at Rome, that one day, as he made his appearance at the theater after the recital of some of his verses, all the people arose with acclamations,—an honor, which was in those days extented to the emperor alone. He was naturally of a mild, modest, and even timid disposition; and was wont often to conceal himself from the multitude, who thronged to see him. He was, in a manner, embarrassed with his glory. His manners were simple; he neglected his person and dress; but this negligence was amiable. He delighted his friends by that simplicity which accords so well with genius, and which seems given to true greatness, to soften the asperity of envy. As talents are limited, and it rarely happens that both extremes can be reached at once; he was not the same, it is said, when he wrote prose. Seneca, the philosopher, informs us that Virgil had not succeeded better in prose, than Cicero is reputed to have succeeded in verse. Cicero, however, has left us some very beautiful verses. Why should not Virgil have been able to descend to prose, since Cicero sometimes elevated himself to

poetry? Horace and he were loaded with presents by Augustus. This happy tyrant knew well that the time was to come, when his reputation would be made to depend upon them. Hence it came to pass that the idea which these two great writers have given us of Augustus, has effaced the horror of his proscriptions. They have, as it were, compelled us to cherish his memory. They have, so to speak, deluded the whole world. Virgil died sufficiently rich to be enabled to leave considerable sums to Tucca, to Varius, to Maecenas, and even to the emperor himself. It is a known fact, that he ordained by his last will that his Aeneid, with which he seems not to have been well pleased, should be consigned to the flames. Care, however, was taken not to obey his injunctions in this particular. The verses which Augustus is said to have composed on occasion of the order, which Virgil had given in his last moments, are truly beautiful, and seem to proceed from the heart:

"Ergo ne supremis potuit vox improba verbis,
Tam divum mandare nefas? ergo ibit in ignes,
Magnaque dotiloqui morietur musa Maronis?"

This work which, had the author's will been complied with, would have been destroyed, and consequently lost to the world, is yet, notwithstanding its defects, the most beautiful and sublime monument which antiquity has handed down to posterity. Virgil, doubtless, drew the subject of his poem from the fabulous traditions which popular superstition had transmitted to his times,—in like manner as Homer had founded his Iliad upon the tradition of the siege of Troy; for, in truth, it is not credible that Homer and Virgil should have submitted themselves by hazard to the queer rule, which H. Le Bossa has thought proper to establish: which is to select the subject before the personages, and to dispose of all the actions which take place in the poem before knowing to whom to attribute them. This rule might well be applicable to comedy, which is but a representation of the foibles of the age; or to a frivolous romance, which is but a tissue of small intrigues which require neither the authority of history, nor the weight of any celebrated name to support them. Epic poets, on the contrary, are obliged to select a renowned hero whose very name shall recommend itself to the reader; and a point of history which is in itself interesting.

All epic poets who follow the rule of Le Bossu, may rest assured of never being read: but fortunately it is impossible to follow it; for if the subject should be drawn entirely from the imagination, and some historical event be afterwards sought to adapt it to the fable, all the annals of the universe would not suffice to furnish an event entirely conformable to the plan; it would become necessary to alter the one to make it co-incide with the other; and can there be anything more ridiculous than to commence erecting a building to be afterwards obliged to demolish it? Virgil, therefore, collected together in his poem all those different materials

which were scattered here and there in several books; some of which may be found in Dionysius of Halicarnassus. This historian traces the exact course of the navigation of Aeneas; forgetting neither the fable of the harpies, nor the predictions of Celoeno, nor little Ascanius who is made to exclaim that *the Trojans have eaten their plates*, &c. Dionysius, however, makes no mention of the vessels of Aeneas being metamorphosed into nymphs; but Virgil takes pains to inform us that this story was founded on an ancient tradition, *prisca fides facto, sed fama perennis.* It seems as if he had been ashamed of this puerile fable, and wished to have us excuse him for the bare mention of it, by attributing it to the credulity of an ignorant public. Were we to consider in this light several other passages in our author, which displease us at first sight, we would certainly be less inclined to condemn him. Would not a French author, who should choose Clovis for his hero, be permitted to speak with impunity of the sacred vase which is related to have been brought down from heaven into the city of Rheims to anoint the king, and which is to this day preserved with faith in that city? Would not an Englishman, who should sing king Arthur, be at liberty to speak of Merlin the enchanter? Such is the fate of all those ancient fables where the origin of each people is lost, that we respect their antiquity, at the same time that we laugh at their absurdity. After all, however excusable it may be to introduce such like stories, I am of the opinion that it would be better to reject them altogether. One sensible reader whom these fooleries should disgust, is surely more deserving of being spared than the ignorant vulgar who believe them.

(To be continued.)

NORTH MISSOURI, IRON MOUNTAIN AND ARKANSAS PORTION OF THE MISSISSIPPI VALLEY RAILROAD.

We would here note some steps which have been taken, this month, in the progress of this work through Arkansas and Missouri.—On the 13th of April, the "Cairo and Fulton Railroad Co." was organized at Little Rock, and ROSWELL BEEBEE was elected President, WM. B. WAIT Treasurer, and JOHN M. ROSS Secretary; and our correspondent there informs us, 22d of April, that they "*are pressing forward with all possible dispatch.*"

The following note speaks volumes for North Missouri:

St. Charles, April 18th, 1853.

H. COBB, Esq.—Dear Sir; the vote was taken to-day on the proposition for St. Charles County to subscribe $100,000 to the capital stock of the North Missouri Railroad Co., the amount to be paid by taxation. The following is the vote in this place. For the subscription 516 votes,
Against " *none.*
In Portage Des Sioux, for the subscription 48 votes,
against " *none.*

This settles the question here. The Iron Horse can't be beat. The proposition is no doubt sustained by a handsome majority in the county.

Yours, &c. BEN EMMONS, JR.

On the same day the Town of Carondelet subscribed $50,000 to the stock of the Iron Mountain R. R. by a vote almost unanimous. And on the 25th of April, the county of St. Louis raised its subscription to the stock of the North Missouri and the Iron Mountain R R., by an overwhelming majority of votes, to $1,000,000—$500,000 for each.

THE

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ARTICLE I.

History: Its Uses.

Gather up the fragments that remain, that nothing be lost.

The benefactors of a people in the earlier stages of their history have been held in veneration by the inhabitants of all countries, and a knowledge of the events connected with the rise and progress of nations has ever been regarded by their more intelligent constituents as a necessary accomplishment. Veneration for those who have labored to ameliorate the condition of their race is a natural sentiment, designed to perpetuate the influence of good men for the benefit of posterity. The example of a Leonidas sustains the courage, and nerves the arm of the patriot in defence of his country; while the self-sacrificing life of a Howard, and the one benevolent action of the good Samaritan, will continue to awaken sentiments of philanthropy in the hearts of millions to the end of time.

The Political Economist may do good service by investigating the sources of national wealth, and, in giving a wise direction to the legislation and industrial pursuits of a people; but it is not less important that the Social Economist should gather up the fragments of benevolence which remain of the actions of good men, and preserve them for the benefit of future ages. These constitute the true wealth, the glory of a people. The accumalated material wealth of a country is a legitimate source of gratification; and the philanthropist may be excused should he even indulge a feeling of pride, when contemplating the abundant appliances of physical enjoyment which fill the land. But all these are only the fruit gathered from seed sown by benevolent hands, and cultivated, it may be, through a period of many generations, by men who received

little reward save the pleasures arising from acts of disinterested benevolence.

The history of a people may be regarded as their moral capital, and those who have none of their own, must borrow from others, or be excluded from the ranks of civilized nations. The history of other countrtes is eminently useful; but it lacks the vital elements necessary to make a people homogeneous; for upon their own examples and achievements depend, in a great degree, their national sympathies, patriotism and social virtues. Hence the best interests of a people as well as justice to those who have passed away, demand that the actions of men who have been distinguished for their social virtues should be preserved from oblivion.

Of the social phenomena of this wonderful age, there is none more remarkable, perhaps, than the existence of civilized States without a history. It is true, only a few years have elapsed since some of these were occupied by a savage race, yet in others the first generation, the pioneers who encountered the dangers, and suffered the privations incident to a border life, have passed away.

It is time that their deeds were recorded by the historian. It has been nearly a century, since the first settlements by a civilized race were made in Missouri: and yet she is without a historian. With few exceptions, the enterprise, daring courage and privations of the French pioneers, west of the Mississippi, remain subjects of tradition. Where else could the historian find a field more fruitful of interesting incident, or where a more favorable opportunity of comparing the genius, customs and habits of different races? Although the advent of the Anglo-Saxon was of a more recent date, yet many of this race who acted a conspicuous part in subduing the country, and giving form and tone to the institutions of the State, are among the dead. Shall they also be forgotten, and the bright gems which should adorn the first pages of Missouri's history, be lost to posterity? Surely such an imputation upon the intelligence, literature and public spirit of her citizens, will not be permitted by the present generation. Missouri has awakened from her supineness in respect to the great improvements of the age, and, like a young giant just aroused to a consciousness of his strength, has entered boldly upon a career that is already attracting observation even beyond the limits of the continent; but she lacks literary and social accomplishments to grace her strength, and dignify her new position.

Wealth, without the intelligence, the virtues and social refinements which adorn humanity, brings contempt upon States as well as upon individualls; and the respect of mankind is an element of power not less necessary to the prosperity and permanent happiness of a people than industry and great physical resources. Mankind must manifest a decent respect for themselves, before they can command the respect of others. The most important element of self-respect is drawn from anticedents, and hence forgetfulness and cold neglect of those who have labored to promote the social interest, is calculated to lower the self esteem of a people, and is not less odious than ingratitude for individual favors.

The importance of collecting and preserving the scattered and perishible material of our history, has been long felt and appreciated by a few intelligent and public spirited individuals, but has not been sufficiently impressed upon the common mind. "In pursuance of a notice which was published in the newspapers of the City of Jefferson, a number of gentlemen assembled in the Senate chamber of the capitol of Missouri, on Wednesday, December 18th, A. D. 1844, for the purpose of forming a HISTORICAL AND PHILOSOPHICAL SOCIETY.

George W. Hough was called to the chair, and James L. Minor was appointed Secretary.

The chairman, Messrs. William M. Campbell, H. P. Goodrich, and John J. Campbell severally addressed the meeting—explaining the intention and objects of the society."*

At this meeting a constitution was adopted, and by an act of the Legislature, passed in February, 1845, the Society was incorporated.

By the second section of the charter it is declared that

"The objects of the Society shall be to collect, embody, arrange and preserve in an authentic form, the materials for the history of this State, to accumulate a library of books, pamphlets, maps, charts, manuscripts and papers, a cabinet of ores, minerals, fossils, and other natural productions; and a museum of relics, curiosities and other articles that may illustrate the history of the country. It shall be an object of the Society to rescue from oblivion the memory of the early pioneers of this State, and to obtain and preserve in an authentic form the history of their exploits and perils; and it shall exhibit in their true light the resources of

* Vide Annals of the Missouri Historical and Philosophical Society, number 1.

the State. It also may take proper steps to promote the study of history, and to diffuse and publish information relating to the description and history of Missouri."

Had the objects contemplated by this section of the charter been prosecuted with efficiency, the early history of Missouri might have been written and published before the present day; but it would have been unreasonable to expect that the society, composed chiefly of individuals actively engaged in the ordinary pursuits of life, could have achieved the objects proposed without an appropriation of pecuniary means placed at its disposal. The State made no appropriation to aid in carrying out the praiseworth designs of the philanthropic and public spirited citizens who originated and formed the society—much however has been done. But the Society has not nor is it probable that it ever will "collect, embody, arrange and preserve, in an authentic form, the materials for the history of this State," in a manner that will do justice to the subject unless a reasonable amount of money shall be devoted to that service.

The Society is composed of individuals highly intelligent, men of influence residing in various parts of the State, and if they would act in concert in soliciting aid from the General Assembly, there is scarcely a doubt that it would be granted: and if judiciously applied, no appropriation of equal amount that could be made, would be more honorable or useful. A few thousand dollars placed at the disposal of the Society, and judiciously managed, would accomplish a great deal in a short time. We trust that the Society will not permit another session of the General Assembly to pass by without an effort to place itself in a condition to carry out the objects for which it was instituted. And, in the mean time, it will afford us a high degree of pleasure to do all we can to promote the objects aimed at by the founders of an institution calculated to reflect so much honor upon the State.

In the Introduction of the first number of the "Annals of the Missouri Historical and Philosophical Society" we find its objects enumerated and set forth; from which we make the following extract:

"The Society also desires that the early and local history of the State may be written by persons competent to the task, and furnished for its use. The history of the early French and Spanish settlements at New Madrid, Ste. Genevieve, St. Louis, St. Charles, Portage des Sioux, Mine Breton, Cote Sans Dessein, and

other places, would be interesting,—as would also an account of the emigration that came from New Orleans, Canada and elsewhere; and of the location and condition of the various Indian tribes when the first white settlements were made. Accounts of the early voyages, travels, trading expeditions, adventures, exploits and escapes of the early settlers, would be read with pleasure. Accurate details of the Indian wars, conflicts, alarms, and treaties, would form interesting chapters in the history of the State. A description and history of the various posts and forts that existed at early times, is desired. The beography of the pioneers—Laclede, Piernas, Cruzat, Libya, St. Ange, Delassus, Trudeau, Soulard, Mackay, Chouteau, Cerre, Pratte, Lisa, LaBeaume, Musick, Delaurier, Tayon, Blanchard, Clamorgan, and many others—would be a valuable addition to our history. The number and extent of the early French and Spanish settlements, and the date of their formation, should be ascertained and perpetuated in an authentic form. The history of the territory immediately before, at and after the treaty of cession, should be carefully written. The provincial form of government, the mode of granting lands, and laying out villages, and the system of government and police before the session, are worthy of investigation. The biography of the prominent men who came into office when this territory was transferred to the Americans, should be preserved. The conduct, character and history of Stoddard, Clarke, Lucas, Penrose, Bates, McNair, Ashley, Hempstead, Easton, Gray, Callaway, Cooper, Cole, and many others, should be written out. The events of the war of 1812, and the accompanying Indian troubles, the adventures of the ranging service, the border conflicts with the savages, such as those that occurred at Loutre, Cote Sans Dessein, and Chain of Rocks, ought to be minutely given as a part of the history of the country. The territorial history of the country deserves attention—the territorial legislation and executive and judicial action under all the successive forms and grades of government will be interesting—the gradual progress from the civil to the common law should be traced out, and the men and measures of the territory properly described. Such men as Cousins, the Bartons and Rectors, Strother, Giddings, Emmons, McGirk, Tompkins, Pettibone, are entitled to a place in our territorial history. The task of tracing the progress of settlement and improvement in each section of the State, will be full of interest; and the early efforts at mining, smelting and manufacturing would not be devoid of interest. The history of the Regulators may receive a passing notice. The transition from the Territorial into a State government—the formation and adoption of the State Constitution—the conflicts of opinion that existed in the Convention—the anecdotes and incidents of its session, and the circumstances that attended the admission of the State into the Union, and the organization of the State government, con-

stitute an important chapter of our history. The early legislation of the State, the choice of officers, the selection of U. S. Senators, the constitutional amendments, the stop laws, and the loan office, are subjects worthy of notice."

"The history of the early trade and commerce of the territory, —the Indian trade—the navigation by perogues and keel boats, —the change, effected by the introduction of steam boats,—the system of barter and exchange—the peltry currency—the Bank of St. Louis, and the old Bank of Missouri, are subjects that could be properly woven into the regular history of the State. The origin, growth and progress of the Rocky Mountain and Santa Fe trade, are fair subjects for historical research. The foundation and progress of the various towns and cities of the State, are parts of our local history. Biographies of all our former Governors, Judges and prominent officers, are desired. All this mass of general and local history can easily be obtaiaed, if the persons who possess the information will take the trouble to write it down, and furnish it to the Society, so that it may be arranged in proper form for publication. A large number of books, pamphlets, letters, manuscripts and files of newspapers are in the possession of individuals, and are nearly useless to them, but if contributed to the Society they would form a valuable addition to its collection."

We make the foregoing extract with a hope that some of our readers are in possession of facts relating to some one or more of the subjects enumerated, and that they will find it convenient to give them to the public, either through the medium of the "Missouri Historical and Philosophical Society," or through our Journal.

There are many reasons in favor of publishing the matter referred to in the Western Journal and Civilian, rather than depositing it in the archives of the Society, where it will remain concealed from the world for perhaps another generation. If published at once, the facts will be subjected to the scrutiny of those who are capable of judging of their credibility; and in case they should pass unquestioned, it would entitle them to more confidence, than if their publication were delayed, until the present generation shall have passed away. A few interesting contributions would incite others to come forward; and there is reason to suppose that in this way many valuable facts would be brought out, which would never be made known to the Historical Society.

One of our chief objects, from the beginning, has been to make the Western Journal a repository for the preservation of facts connected with the history of the Mississippi Valley including its entire area. The tenth volume of the work is now in course of pub-

lication. It is preserved in a durable form in the principal libraries (public and private) of the country; and whatever may be its merits, it is likely to go down to a remote posterity. Hence contributors to our pages have at least a reasonable assurance that their literary labors will not be lost, and that their names will be found in the history of this mighty region long after the monuments which wealth erects to its own memory shall have decayed. These suggestions do not originate in a desire to prevent any individual from contributing to the Missouri Historical and Philosophical Society; so far from it, we will, after publication, cause the manuscripts of all historical articles to be deposited in that institution, if requested by the author. Thus, their names will be recorded as contributors to the Society, and their manuscripts preserved; while they and the public will respectively enjoy the benefits of their labors.

Let it not be said

> "The evil that men do, lives after them;
> The good is oft interred with their bones."

Such a state of things is opposed to the true principles of social economy, and "a reproach to any people."

There is a merit in the publication of benevolent actions which has not, as we believe, been sufficiently insisted upon, or appreciated by the teachers of ethics.

The good deeds of men possess a quality which fructifies and quickens the minds of others, causing them to produce similar fruit, but affects those only who are cognizant of the deed. Hence the publisher is a social benefactor disseminating the seeds of virtue in the hearts of the people. And though some may fall in stony places, and some by the way side, and perish, yet let him not withhold his hand; for he that conceals or neglects to make known a meritorious action, does injustice to the author, and sins against society.

Then let us gather up the fragments of history which lie scattered throughout the land. They will present a rich field for the study of the social economist, philosopher and statesman, and constitute a permanent source of gratification and instruction to all. They will serve to connect the past with the present and future condition of the country, and rescue many worthy names and noble deeds from oblivion.

Article II.

From the Little Rock "True Democrat."

Arkansas Slate.

PROF. WARDER'S GEOLOGICAL REPORT.

To the President and Members of the Cincinnati and Little Rock Slate Company.

Gentlemen:—In pursuance of your instructions, I left Cincinnati on the 5th of February, and proceeded with all dispatch to Arkansas—reaching Little Rock on the 15th. Here I immediately devoted myself to the investigation of the subject matter in hand, and explored thoroughly the rocky formations of the country, but especially the slate rocks, and those intimately associated therewith. Their real consociation was not an easy matter at once to unravel, nor was it easy directly to comprehend the upheaving forces that have at one period, so remarkably upturned the strata. Here, however, as well as in my further investigations, I gladly embraced the happy opportunity that accidentally offered, of enjoying the company and assistance of Dr. George Shumard, the eminent Geologist of Arkansas, who, indeed, has had opportunities of studying the rocky strata of this young State, old in formations, and rich in mineral wealth, which, under a judicious survey, sustained by liberal outlay. she may one day have developed, when indicated by Dr. Shumard's reports.

Advantages of Position.—These consist in the inclinations of the strata and the position of the river at the base of the cliff—the stream has laid bare the rock, and left little to strip off while it is a ready recipient of the slack slate, that will form a good shingle beach for a landing. The direction of the river is not exactly parallel with the plane of the strata, hence a succession of these is shown, and may be worked. The inclination is such that an exposure of one stratum will enable the workmen to disengage the layers with very little labor, requiring much less blasting, and the consequent loss and fracture. By disengaging them below, they may be pryed up, and will slide down to the foot of the quarry.

Character of the Slate.—The rock is sufficiently indurated to form a durable roof; it is sufficiently pure to avoid decomposition by chemical action, and fissile enough to be split readily to any desired thickness.

Having made these satisfactory discoveries, my next object was to endeavor to ascertain the extent of the formation containing this valuable mineral, which appears to embrace a strip about a mile in width, extending in a direction south of west at least to the Wachita river, and perhaps much further. This forms a portion of the range of the Wachita Hills, the southern range of the Ozark Mountains. In the opposite direction, crossing the river at Little Rock, the slate extends for some little distance in a direction north of east.

In all this range, however, there are few portions where the slate

can be worked to advantage, owing to its dip, which carries it under the superincumbent sand rocks, except where the excavating forces have removed them, as is the case on the Saline and Wachita river, but more especially on the Arkansas as at Little Rock, where a larger stream has cut through the mountain, and turning laid bare an extended cliff of slate, most favorably situated for working, as the strata are nearly parallel to the course of the stream, and being inclined towards it, present the finest field for excavation. Other portions back from the river, independent of their inland situation, with the attendant difficulty and enormous expense of transportation, are generally covered with a larger portion of drift which is to be removed, besides having the inconvenience of a very small valley to receive the deposit, and they nowhere present such bold cliffs as are found upon the main stream.

Good slate has been quarried on the Saline river and near the Hot Springs on the Wachita, but the difficulties of inland transportation will always prevent their coming into competition with that quarried at Little Rock.

On the other hand, if we follow the strata across the river, we shall find this vast excavating force has entirely removed the rock in question for many miles, nor is it known again to appear except in the unfavorable position of dipping under the sand rock, as exhibited beautifully in the section made by the river cutting through the ridge known as Big Rock. On the upper end of this section, the slate again appears rising from beneath with the same disadvantageous aspect for working, also becoming confused, contorted and convoluted in a low ridge with a subordinate anticlinal axis, which forms a beautiful section of great geological interest to the student, but very unsatisfactory to the quarryman.

Having heard many vague representations of the extent of this slate formation upon the Arkansas river, and deeming it important to the interest of the Company to ascertain whether they were well founded, I considered it my duty to continue the exploration in that direction, and accordingly ascended three hundred miles to Fort Smith, cutting diagonally the whole distance through a coal basin devoid of indurated rocks, but giving good indications of bituminous coal. Beyond Fort Smith the carboniferous limestone appears in nearly horizontal strata.

Being very anxious to ascertain the upheaving force that has disturbed the strata near Little Rock, I explored the region to the South and Southwest of that city, and found indications of slate everywhere to the Southwest for some distance, till cut through by the extensively excavated valley of the Fourche, a small stream, which, however, becomes formidable when filled with the back water of the Arkansas river.

The southern border of that valley is abruptly terminated by an irruption of beautiful granite, rising into a low ridge, with an axis nearly or quite parallel to the direction of the slate.—Here was

found ample cause for the upheaval, and also for the induration of the rocks within a certain distance of the focus of heat subheaval, which such an irruption of granite undoubtedly formed, and to the Geologist, the discovery of this granite possesses the deepest interest, as it dispels all doubts as to the probable condition of the slate in question. Here is the explanation of the hardened rocks, both aluminous and silicious.

In conclusion, allow me to congratulate the Company upon the admirable facilities which are presented by the peculiar location of their excellent quarry of this valuable mineral, which we may hope to see developed at an early period, and brought to our doors—a most valuable roofing material.

N. B.—In order that the Company may form some idea of the extent of their vein of Slate, we would remark that the depth of the plunge is undoubtedly many hundred feet, a greater depth than has ever yet been worked, or indeed, it is practicable to work. We are informed that quarries have been opened in Wales to the depth of 300 feet below the surface of the earth, while the Pennsylvania Slate Company have not yet excavated over 125 feet in depth, although they have been in successful operation over 27 years, and employed 100 hands at a time in excavating.

But as a basis of a calculation, the Cincinnati and Little Rock Slate Company can depend upon a solid mass of smooth slate of at least 75 feet in thickness above the bed of the river. Multiply this by the area of the Company's vein, which is about 100,000 square feet, and we have the immense aggregate of seven million five hundred thousand cubic feet of slate, even by quarrying 75 feet deep. Multiply this by 4, and it swells the amount at a depth of 300 feet to thirty million cubic feet of slate. From a cubic foot of rock, allowing one-third for waste, a workman can split fifty good smooth slate, of sufficient thickness for roofing. This gives us a full aggregate of fifteen hundred million slate, or fifteen million square of 100 feet, of regular size for roofing, and will keep the Company fully employed, with all the resources they can bring to bear for the whole 50 years of their charter.

Upon enquiry as to the expense attending excavation, we learn that after stripping the surface, (which must necessarily be first done,) a single hand can quarry, upon an average, about one square per day, of 100 square feet, at an expense of $1.25. The freight and drayage from our wharf will not exceed $1.75 per square. Total cost, delivered in Cincinnati, $3.00 per square. This can be rapidly sold for cash in any quantity, for $6.00 per square or more, as Pennsylvania Slate now commands $8.00 per square, with no prospect of a reduction in price. Thus it will be seen that one-half of the amount from sales will be profit to the Company, and form the basis of large dividends of profits, after the quarry shall have been opened. All of which is respectfully submitted. JOHN A. WARDER.

ARTICLE III.

Erom the "Railroad Journal."

Geographical, Geological and Statistical Relations of the Ohio and Mississippi Railroad.

The Ohio and Mississippi Railway, when completed, will be the central axis,—like the hub to the wheel,—in what may properly be called the Railway system of the Mississippi Valley. That system will be as grand in artificial works as that valley is vast in extent and resources. Already, ten thousand miles of railway, exceeding, in aggregate, those of all Europe, are either finished, constructing or planned, with a moral certainty of completion. On the north they connect with the great Basin of the Lakes, from the Gulf of St. Lawrence to the Arctic Plains; on the south they stretch to the Gulf of Mexico; on the east they are linked to every great city of the Atlantic, and on the west they are already rapidly tending towards the bosom of the Pacific. On a straight line between Cincinnati and St. Louis will be found a point midway between the Atlantic and the Rocky Mountains, and between the lakes and highlands of the Gulf; on that line also will be found the centre of population for that wide region, where eight millions of people already reside, and where nature has furnished abundant food and temperate climate for hundreds of millions in time to come. In every sense, therefore, natural, commercial and civil, the railway line between Cincinnati and St. Louis occupies a central and commanding position in reference to the whole railway system of the central west.

In estimating the traffic and profits of such a work we must not merely consider what we know of the present, but look beyond into some of the great elements of nature, society, industry and commerce; for the stream of business and of movement, on the artificial communications of a country, as certainly proceed by fixed laws, from the resources of nature and the arts and growth of a people in that country, as do the streams of water from their original and perennial fountain. Therefore, in discussing the problem you have submitted to me, I shall consider the subject in the following order, trusting that, if the details seem dry, you will consider that they lead to an inevitable and a satisfactory conclusion.

1. The Geographical position of the Cincinnati and St. Louis Railway.

2. The Geological elements of wealth, subsistence and population in the country traversed.

3. The magnitude and commerce of the cities connected.

4. The actual surplus productions of the country traversed.

5. Tributary Railway lines.

6. The shortened distances, by these lines, from the central cities to the seaboard.

7. Estimate of through passengers.

8. Estimate of lateral passengers.

9. Estimate of way passengers.

10. Estimate of freight derived from the surplus productions.

11. Estimate of freight derived from merchandize and manufactures.

12. Final estimate of profits.

1. GEOGRAPHICAL POSITION.

Whoever examines the geographical features of the Mississippi Valley, will at once observe that it has two great *Natural Axes*, nearly at right angles with one another. One is the longitudinal axis of the Mississippi itself, extending from the Arctic Plains to the Gulf of Mexico, in a straight line less than 1,500 miles, but by the river course 3,360 miles; the other is the transverse axis, formed by the Ohio, the Missouri and the Platte, pursuing a general course east and west. This axis is not quite so direct as that of the Mississippi; but pursues a geographical direction, substantially, at right angles with the former. The southern deflection, terminating at the mouth of the Ohio, is formed by the general declivity of the Valley towards the Gulf of Mexico. The length of this tranverse axis, from the eastern to the western mountain chains, is about equal, on a straight line, to the longitudinal axis —1,500 miles—although, by the river distances, it is more than three thousand.

The existence of these two great natural axes determines three great *principles*, in reference to all the future railway systems of the central west. These principles will exert a controlling influence over all particular works, and must have an important bearing on the line between Cincinnati and St. Louis. They are

1. Nature having formed great highways on which, naturally, all commerce flows—to which all plains incline, and where, by the aid of steam applied to vessels, a large portion of the movement of the country must go on—it follows that the railway system *must conform, generally, to those natural ones.* They must tend to supply, as far as their artificial uses go, the original purposes of these great channels. They must take the general direction of either the longitudinal or transverse axis, or they cannot supply the demands of commerce on those interior plains which descend towards those axes.

2. The Valleys of these great axes are, in consequence of their extraordinary irrigation, and the descent of the whole country towards them, the great depositories of vegetable productions, and, therefore, of food to men and animals. There, life, both veget-

able and animal, most abounds, and there movement is most necessary to life; there gravitates the means of subsistance, and there also gravitates the living population, which will produce, consume or fabricate it into the merchandize of commerce. Thus we see arise on the great tranverse axis of the Ohio and the Missouri the cities of Pittsburgh, Wheeling, Cincinnati, Louisville and St Louis, whose united population is double that of all the cities on the Lakes and the Gulf of Mexico together. The centralization of commerce and population in the tranverse valleys is double what it is on both sides, north or south, and *quadruple what it is on either one.* The existence of the great axes, therefore, has determined, as a second principle, *the centralization of population, production and commerce of these lines.*

3. It follows inevitably, from those facts, that those railways which are *nearest to and conform most to the natural axes of the country*, will have the most business, and be the most profitable, for they lie on the centres of population and production.

These are general principles which flow directly from the geographical features of the Mississippi Valley. Their application to the Cincinnati and St. Louis railway is direct and obvious. This work lies precisely on the line of the transverse axis, having avoided only the deflection of that axis at the mouth of the Ohio; but preserving the general direction of the Ohio, the Missouri and the Platte. Intersecting the Missouri Valley at its outlet, it commands the entire transit traffic of the great plain west of the Mississippi; it there proposes to transfer so much of that traffic destined eastwardly, over a straight line of less than half the length of the water course, again intersecting the Ohio at the very centre of its trade and population, it rejoins the natural axis, where it can command the trade of the east tending westwardly. In fact, it never leaves the great natural current, except to avoid its sinuosities. Such is its geographical position. The direct advantages which flow from it, are these: that the entire Raylway system of the central valley, covering two million two hundred and fifty thousand square miles, will radiate round this axial line; that no longitudinal line, connecting the basin of the Lakes with the Gulf of Mexico, can exist without intersecting this work, or its continuances; that all the great lines of the east must tend towards it, as a centre of union; that any highway hereafter constructed to the Pacific will become a continuance of this; and lastly, that by connecting the great commercial centres of Cincinnati and St. Louis, it becomes the channel into which the population, commerce and manufaetures of the velley pour their united streams.

2. GEOLOGICAL FORMATION.

This is a consideration not to be lost sight of when we would estimate the traffic of railways on extending lines. In some coun-

tries we might pass over sandy plains in order to reach distant cities; in others, mountain regions, unfruitful of anything but mineral resources; in others, through land wholly arable, or in others of grassy plains. The geology of the country through which the Ohio and Mississippi railway passes is one characterized by all the elements of great wealth. At Cincinnati is nearly the centre of the blue limestone region, that which is probably more fitted to the production of Indian corn, and all the vegetable materials of food than any other section of the country. In the Valley of White River, on the Wabash, the road passes for long distances through the finest alluvial beds in the great alluvial plain of the West. In Illinois it passes through the same formation; while midway on the line it intersects a portion of the immense coal field which there crosses the Valley of the Ohio. Near St. Louis, at its western extremity, are immense bodies of iron and lead, scarcely begun to be developed, which must, hereafter, form the basis of immense manufacturing establishments. Such is the geology of the country traversed by this work, and of the neighboring sections, which must contribute to its business. Its alluvial character makes the road easier of construction, while it greatly increases the materials of its traffic. With this peculiar characteristic there is singularly united, in and around the same region, deposits of coal, iron and lead, greater in magnitude than any found equally accessible in any country.

3. THE MAGNITUDE AND COMMERCE OF THE CITIES.

Cincinnati and St. Louis, the two cities at the extremities of this line, have no rivals in the rapidity of their progress, the accumulation of their wealth or the splendor of their prospects; they stand where there is more positive power to feed men, more materials for manufacture, and greater extent of inland manufactures than is to be found at any other points in America. The adventurous merchant finds thirty thousand miles of internal coast open to his commerce, before he even reaches the ocean. The manufacturers and artizans find, spread within their reach, coal, iron, stone and timber, in quantities such as populous nations in accumulated age of time cannot exhaust. And hungry millions, in search of food and comfort, find a soil fertile in every salutary plant, abounding in every physical element of human happiness. It is such causes which have produced the rapid population of the west, and such causes will, for centuries to come, continue its growth and increase the magnitude of its cities. That the growth and prospects of Cincinnati and St. Louis may be fully understood, I present the following tables—exhibiting, in the first place, their absolute growth, and next, their growth as compared with New-York and Philadelphia, when at the same relative magnitude.

1. *Table of the population and growth of Cincinnati.*

Years.	Population.	Decennial Increase.	Increase per cent.
1800	750	.....	.....
1810	2,320	1,570	200
1820	9,602	7,282	314
1830	24,831	15,229	158
1840	46,338	21,507	87
1850	116,108	69,770	150

2. *Table of the relative growth of New York, Philadelphia, and Cincinnati.*

New York.			Philadelphia.		
Years.	Population.	Increase.	Years.	Population.	Increase.
1790	33,131	.....	1790	42,520	.....
1800	60,489	82 p. c.	1800	70,287	66 p. c.
1810	96,373	60 "	1810	96,664	40 "
1820	123,706	30 "	1820	108,116	13 "

Cincinnati.

Years.	Population.	Increase.
1820	9,602	.....
1830	24,831	158 per cent.
1840	46,338	87 "
1850	116,108	150 "

This table proves that Cincinnati has grown much more rapidly, at corresponding eras, than either New York or Philadelphia; and there is certainly nothing in the relative situation of either to show that their relative growth will not continue. In *thirty years* (at similar periods) New York increased 90,000 (275 per cent.) Philadelphia, 66,000, (159 per cent.); and Cincinnati, 106,506 (1,100 per cent.)

3. *Table of the relative growth of St. Louis.*

Years.	Population.	Decennial Increase.	Ratio of Increase.
1820	4,598	.....	.....
1830	5,852	1,255	29
1840	16,469	10,616	180
1850	82,742	66,469	400

4. *Table of the combined growth of St. Louis and Cincinnati.*

Years.	Population.	Decennial Increase.	Ratio of Increase.
1820	14,200	.....	.....
1830	30,683	16,483	116
1840	62,807	32,124	105
1850	198,850	136,043	216

The very remarkable fact is presented in this table, that the *ratio* of increase has doubled in the *last* period. The increase of New York city has never been beyond 70 per cent. in a *decennial*

period; while we find that of Cincinnati and St. Louis 216 p. c., when they had reached an average magnitude of 100,000 inhabitants! This fact proves that, as the internal commerce of the west increases it impels the growth of the marts of trade at an increased ratio, in order to distribute the products of its fertile soil and its rapidly increasing population. The combined growth of the cities of the Ohio valley, viz: Pittsburgh, Wheeling, Cincinnati, and Louisville, presents the same fact in a striking point of view; in 1810 they had 10,000 inhabitants; in 1830 60,000, and in 1850 270,000. In 1860 the commercial towns of the Ohio Valley will have a population exceeding half a million.

I shall not undertake to predict the period when St. Louis and Cincinnati will be parallel in magnitude with New York and Philadelphia; but that such a period will come, cannot be doubted by those who have attentively considered the far greater resources, and ultimate population, which will supply the elements of trade and civic employment, to the central cities in comparison with those of the seaboard. If, then, it be profitable to employ six millions of capital in railways radiating from Boston; if it be profitable to send forth railways from New York, Philadelphia and Baltimore—tunnelling the mountains—traversing the shores of the Lakes—and pursuing their devious way in pursuit of *part* only of the commerce of the west—how much more profitable must it be to unite the commercial capitals of the west, in a direct line, through that fertile garden filled with that much coveted commerce? Nothing can be plainer than the superiority of its results to those which can possibly be obtained, even on the most prosperous of those lines, in which such enormous capitals have been embarked.

4. THE ACTUAL SURPLUS PRODUCTIONS OF THE COUNTRY TRIBUTARY TO THE CINCINNATI AND ST. LOUIS LINE.

The *positive surplus* production of a country must be determined, before we can properly estimate the profits of commerce. Even then we shall fall much short of the amount which is *moved* on the transit lines; for we ascertain a surplus only by subtracting from the production the *aggregate* consumption. But it is obvious that as, even in the smallest territory, one part of the people produce for the consumption of another part—there must be—even on small surfaces, a continual *movement* of articles which enter into the aggregate of consumption. For example, every county town of Indiana or Illinois derives its food from farms, often at a great distance. A large part of that food, therefore, becomes the subject of locomotion on rivers, canals or railways. The movement of articles of *consumption*, in the States where raised, becomes therefore no inconsiderable part of railway traffic. When, then, we assume the *surplus* production of a State as the great element of its commerce, we, in fact, fall much short of what that production furnishes to that commerce. We assume the surplus,

however, as the greatest element, and make it a standard of comparison, in reference to the *freight* traffic. The following table will show the actual *production* of the States of Ohio, Indiana, Illinois and Missouri; the *surplusses*, after deducting the consumption of the inhabitants; and the actual surplusses *exported* from Cincinnati, St. Louis and intermediate places. The *proportion* of these surplusses, which will enter into the traffic of the Ohio and Mississippi railroad, I shall consider in the estimates.

5. *Table of the principal Agricultural products of Ohio, Indiana, Illinois and Missouri for* 1851.

Articles.	Ohio.	Indiana.	Illinois.	Missouri.	Total.
Corn, bushels	59,788,750	52,887,564	57,177,283	35,769,042	205,562,639
Wheat, "	30,000,000	8,200,000	10,366,000	3,233,000	51,799,000
Cattle, No.	1,116,145	608,000	678,000	546,000	2,948,145
Hogs, "	1,436,643	822,000	863,000	722,000	3,864,643
Butter, lbs.	34,180,458	12,748,186	12,605,554	7,762,124	67,296,322
Cheese, "	21,350,178	686,986	1,283,758	201,597	23,522,830
Tobacco, "	10,480,967	1,035,146	844,129	7,038,364	29,398,526
Seeds, bush.	185,598	35,083	13,439	2,182	237,022

Of this immense grain crop, and of the animals sustained by that and grass, there is a surplus, in its magnitude enormous. The surplus of wheat can be exactly ascertained by allowing six bushels to each individual of the population for the annual consumption. Of hogs and cattle fitted for market, and of whisky manufactured from corn, the surplus is very nearly known from the annual shipments. When these have all been determined, there remains a very large surplus of corn which would go to market if there were facilities of transportation. Determined by these data, the surplusses are as follows, viz:

6. *Table of Surplusses.*

	Corn, bushels.	Wheat, bushels.	Cattle, No.	Hogs, No.	Cheese, lbs.	Tobacco, hhds.	Seeds, bush.	Butter, lbs.
Ohio,	20,000000	18,000000	100000	500000	12,000000	6000	180000	5,000000
Indiana,	15,000000	2,200000	70000	300000	300000	600	30000	2,000000
Illinois,	20,000000	4,666000	80000	350000	400000	400	12000	2,000000
Missouri,	10,000000	....	60000	200000	....	9000	2000	1,000000
Total	65,000000	24,666000	310000	1,350000	12,600900	16000	224000	10,000000

The above surplusses amount to more than *three millions of tons* weight; an aggregate equal to double the whole tonnage carried on all the railroads of New York, the central railroads of Pennsylvania, and the Baltimore and Ohio railroad. How much of this immense surplus production is likely to be carried on the axial line, between Cincinnati and St. Louis, may be inferred, in some degree, from the exports of those cities.

7. *Table of the Exports of the Leading Articles of Domestic Produce from Cincinnati, St. Louis and intermediate points.*

Flour, bbls.....	1,210,000
Beef, bbls.....	60,500

Whiskey, bbls	336,724
Salt, bbls	63,800
Small Grain, bush	2,206,000
Tobacco, hhds	31,900
Hogs, slaughtered	825,000
Corn, bush	4,000,000
Lead, lbs	20,000,000
Cheese, lbs	6,000,000
Butter, bbls	15,000
Candles, lbs	6,000,000
Cattle, head	2,000

The above articles are in weight above 500,000 tons, of which the freight will be divided among the various modes of transportation from these cities. The aggregate may serve to guide in forming a general idea of the freights of agricultural produce only, from these cities, and two or three intermediate points, on the line of this railway. We may assume, safely, that the way freight, or that which moves from point to point on the line, will fully be equal to one half of this, and there can be scarcely a doubt that the very existence of a new and facile mode of transportation, from points heretofore secluded from the avenues of locomotion, will add another half to the general aggregate. Thus, we shall find, at the various commercial points on this work, a million of tons of freight from domestic produce alone, ready to be transported to either the exterior or intermediate markets.

Domestic produce, however, forms but one part of the freight traffic of a railway, although on the fertile plains of the west, the greatest. There are two other classes of freight of great magnitude. These are the distribution of merchandise and manufactures, constituting the principal elements of *supply* to a country where agriculture is more than sufficient for its support.

The following table is an approximation to the amount of various kinds of groceries, merchandise and manufactures distributed from the ports of Cincinnati and St. Louis.

8. *Table: Distribution of Groceries, Merchandise and Manufactures.*

Coffee, lbs	16,584,640
Sugar, hhds	40,360
Molasses, bbls	75,866
Merchandise, tons	44,635
Manufactures, tons	25,009

The above articles in these cities alone, furnish about 110,000 tons, of which a much larger *proportion* will pass over the Ohio and Mississippi R. R., than of domestic; for the arrival of merchandise and the distribution of manufactures are more directly

east and west, than the distribution of produce, much o f which passes to the south.

We have now arrived at general data in relation to the tonnage and distribution of freight on the line of the Cincinnati and St. Louis railway, which may serve as guides in a general estimate. The surplus productions of the four States in which it lies are equal to *three millions of tons*, entirely exclusive of the immense freight of merchandise, manufactures, groceries and minerals. It is farther seen that the tonnage of distribution at Cincinnati, St. Louis and intermediate points, is equal to *one million one hundred and ten thousand tons.* The determination of these facts rests on an incontrovertible basis: the statistics of the U. S., and of the cities of Cincinnati and St. Louis, obtained with the utmost care and accuracy.* If there are errors, they are unquestionably errors of diminution and not of excess.

5. TRIBUTARY RAILWAY LINES.

By this, I mean those lines, however important and primary they may be in themselves, which by their position and connections, *must* bring traffic to this line; all lines which are lateral to this, or intersect it, from either side are of this description. So also, all continuances of this line east or west, belong in relation to *this* road to the same class. The number and extent of these will be far beyond those of any other railway in America. The reason of this is obvious, from the considerations advanced under the head of "Geographical Position." This is an Axial line, on and around which nearly the whole railway system of the Central West must radiate.

* The Annaul Review of Trade and Commerce, in Cincinnati, prepared by Richard Smith, superintendent of the Merchants' Exchange, is the most accurate commercial document I know of.

Public Lands in Missouri.

AN ACT giving the assent of Congress to the State of Missouri to impose a tax or taxes upon all lands hereafter sold by the United States therein, from and after the day of such sale.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the assent of Congress is hereby given to the State of Missouri to impose a tax or taxes upon all lands hereafter sold by the United States in said State, from and after the day of such sale: *Provided*, That the assent hereby given shall in no wise impair that provision of the compact with the said State, which declares that all lands belonging to citizens of the United States, residing without the said State, shall never be taxed higher than lands belonging to persons residing therein.

Approved, June 10, 1852.

ARTICLE IV.

From Hunt's Merchants' Magazine.

The Bearing of Physical Circumstances upon the Development of Commerce.*

"God," saith the poet, "never made an independent man." In civilized society, the mutual dependence of the individuals upon each other, is the great principle which lies at the bottom of the social fabric. And even the wildest savage derives his enjoyments and his scanty comforts, in a great measure, from his fellows. No where has man been found in a state purely unsocial. Such a state is opposed to the very principles of his nature.

In the primitive state of society, men are much less dependent upon each other than they come to be when they are more civilized. Originally, every hunter is also the maker of his own bow, and each warrior fashions for himself the wooden lance or the stone tomahawk which he carries into battle. From the skins of the animals which he kills, the former makes the coat for his back and the shoes for his feet; while the flesh supplies all the necessities of his table. But in process of time, it is noticed that different individuals do not succeed equally well in the same employment, nor the same individual in different employments. One is found to meet with a comparatively high degree of success in one branch of the business necessary to subsistence, and another in another branch. A may make a better bow than B, while B is the most skillful in its use. Should several hunters like B be found, who are more successful in the chase than in the preparation of implements for it, nothing would be easier than for them to make an arrangement with A, by which he may devote himself entirely to the making of bows and tomahawks, and thus increase his skill in this business, while the others attend only to hunting. The terms of the arrangement might be that A should fournish all the others with bows, and that in return, they should contribute to him the additional amount of game which, by the arrangement, having better implements and more time, they would now be able to take.

* We learn from a note appended by the Editor of the MERCHANTS' MAGAZINE that the following article was delivered as a lecture before the Students of Comer's Initiatory Counting Rooms, in Boston, by Mr. Comer, the proprietor and manager of that institution. The subject is one highly interesting to every intelligent mind, and is managed with ability; but we object to the conclusion to which the author arrives that "*restrictions upon Commerce always operate injuriously upon the country which adopts them.*" It is true, the natural laws of commerce suggest the idea of free and unrestricted trade. But we hold that there are laws arising out of the relations between different countries which ought to modify the natural laws of commerce, and that, unrestrained, the latter operate in favor of the strong and oppress the weak. This subject is too broad to be discussed in a note. We beg to refer those who doubt the soundness of our own conclusions to the views which we have expressed in a number of articles in the Western Journal—*Editor.*

This transaction would be a commercial transaction, and would illustrate the principles which form the basis of all Commerce. Commerce is only an exchange of one commodity for another. Wherever there is the slightest division of labor, as in the case above, there must be Commerce; for the moment a man confines himself to the production of only one or two of the necessaries of life, he ought to produce more of these than he needs for his own use, and the surplus must be disposed of to those who are not producers of the same articles; while he receives in return for these that he does not need, other articles that he does need, but which he does not produce.

Commerce commences, therefore, at an early stage of a people's progress, and it assists powerfully in the march of a nation up the hill of civilization.

But a division of labor may exist not only among the individuals of a community, as in the case supposed, but it may be found, and it is found, that whole communities, on account of their situation, or the character of the people composing them, or for some other reason, exhibit the same differences with respect to each other that single individuals do. Hence arises a Commerce between communities and between nations. Foreign Commerce arises from the fact that there is a great diversity in the character of the vegetable and mineral productions of different parts of the surface of the earth, and that the productions of all parts are required to supply the wants and gratify the tastes of civilized man. We now propose to notice some of the circumstances which influence the development of such a Commerce.

And first we observe that the productiveness of a country enters largely as an element into its commercial prosperity. This is evident from the considerations already suggested. Since Commerce is only an exchange of commodities for commodities, that country only can engage in it which possesses some commodity in quantities exceeding what is required for its home consumption. We sometimes see what may appear at first view an exception to this, in the fact that some towns on the sea-coast have a large Commerce, although situated in the midst of a sterile region, which yields to the miner or the husbandman but a scanty reward, even in return for the most careful toil. But in such a case, the Commerce is a transit Commerce, and is supported by the productiveness of a region which communicates with the consumers of its wealth by the city supposed. There is, we know, a certain amount of Commerce in the Desert of Sahara, but what would become of it if the great central plain of Africa, watered by the copious streams which flow in the Niger and Nile, and supporting a large population, should be blotted out of existence, and the supply of shining dust on its mountain sides should cease? The sand sea would no longer be navigated.

What cities in Eastern Asia have the largest commercial intercourse with Europeans and Americans? Canton, in China, the outlet of that great plain of 210,000 square miles, and supporting a population, according to Chinese computation, of 170,000,000 of souls. Calcutta, situated in the center of that fertile Indian plain, a large part of which sustains a population of 500 to the square mile. The trade of Christendom with Beloochistan and Arabia is insignificant in amount, because those countries produce little that would be saleable in the markets of Christendom, either as necessaries or luxuries. They are for the most part unproductive wastes, capable of maintaining only a thin population.

Another circumstance upon which the commercial prosperity of a country depends, is its accessibility, or the facility with which traders from abroad may reach it, and its own inhabitants may convey the products of the soil, or of their labor to foreign markets. If a region is shut out from the rest of the world by almost impassable mountains, or by wide, sandy deserts, it will suffer great disadvantages in trading with other countries. It is true that extreme fertility of soil, or peculiar richness of mineral deposits, may, and sometimes does, in a measure outweigh these disadvantages, but the inaccessibleness of a place will always operate unfavorably.

For the commodities exported from such a country, must be produced at a price sufficiently low to enable them, after the addition of the usual cost of transportation, to compete with similar products from other parts of the world; and the articles imported from other countries would become more expensive on account of the same unusual cost. But a country which has a sea-coast abundantly supplied with harbors, and which is intersected by large and navigable rivers, will evidently enjoy great advantages, both in the exportation and importation of commodities. By reason of the cheapness of transportation, imported articles will cost less on reaching the consumer than they otherwise would; and in exportation the producer may realize a larger return for his labor on the same account. And when the same individual stands in both these relations, the advantages he derives from the commercial accessibility of his place of residence will be two-fo'd.

It is plain that the healthfulness or unhealthfulness of the climate of a country will materially effect its commercial accessibility, for no merchant or ship owner ought to make a large sacrifice of human life, to secure even the highest profits.

Now since the development of Commerce depends so much upon the productiveness of a country, it is proper that we should inquire into the natural conditions of productiveness. They are found to depend upon the geological structure of the given locality, and the composition of its rocks. This is very obviously true in the case of mineral wealth, and we shall find, on examination, that the geological character of a country affects no less the character and

amount of vegetation. Soils are composed of the disintegrated particles of the underlying rocks, mixed with small quantities of organic matter. In truth, the difference between one soil and another is essentially a difference between the earthy part of them. The two mineral substances which enter most largely into the composition of soils, are clay and sand, and the different kind of soils arise from the different proportions in which these substances are found in them. Should the clay constitute only 10 per cent. of any soil, that soil is usually said to be sandy; it is called a sandy loam when it contains from 10 to 40 per cent. of clay; loam if there is from 40 to 70 per cent. of clay; clay loam if 70 to 85 per cent. of it is clay; strong clay if 85 to 95 per cent. is clay; and pure agricultural clay if no sand is found After these two ingredients, lime is the most abundant, generally in the form of carbonate, 5 per cent. of which constitutes what is called a marl, and 20 per cent. a calcareous soil. All these substances are obtained by the abrasion and crumbling of the underlying rocks, and the facts stated show how much influence they have in determining the nature of the soil.

The practiced geologist decides, from an examination of a country, what it is fitted to export. Is he seeking for a locality which will furnish mineral coal? He knows that this substance is not to be found in any considerable quantities below the carboniferous formation, and is, therefore, never deceived by the expectation of enriching himself with the products of imaginary coal fields among the granite and gneiss of the primary rocks. But in the proper layer of the earth's crust, he heeds every indication of the presence of this valuable mineral that falls under his observation. He knows that a granite country, where the soil lies immediately above the unstratified rocks, must, if thickly settled, import its fuel. And in order to be able to import fuel, it must export something, and that something will be whatever it can best produce: the products of the soil, if that be fertile, or like Massachusetts, its exports may consist of granite, ice, and the fruits of the unconquerable industry of its inhabitants.

Let us imagine two portions of country; one of them in which the carboniferous system is developed, has, we will suppose, but little fertility of soil, but possesses abundantly the treasures peculiar to this system, coal and the ironstone; and the other portion, which we will suppose accessible to the people of the first, but having none of the mineral treasures, and composed of different rocks from those of its system mentioned, is covered with a fertile and easily labored soil. Now allowing the inhabitants of both regions to be intelligent and to understand their true interests, we ask if it would be possible to prevent a commercial intercourse from springing up between them? Commerce will follow such conditions as certainly as any effect follows its cause. The annual vegetation of the one place will be exchanged for the ac-

cumulated vegetation, which in the other, has been for ages preserved for the benefit of future generations of mankind.

But the productiveness of a country depends not only upon its geological formations, but also very much upon its climate. By this word is meant all "those modifications of the air which affect our senses." Of these, the most important in respect to vegetable richness are temperature and humidity. Heat and moisture are the two great atmospheric principles which influence the development of a luxuriant vegetation. Other things being equal, wherever these two exist in proper proportions, we find a more abundant growth of plants than where either is wanting or in excess. An excess of moisture, with little heat, makes a frozen waste—and excess of heat with no moisture, makes a parched waste, a Sahara. Let us, therefore, briefly examine the conditions of temperature and humidity.

The mean annual temperature of the air in any place depends, first, upon the situation of the place with respect to the great earth, that is with respect to the equator and the poles. The line of highest temperature is not coincident with the geographical equator, but is very irregular in its form, and lies almost entirely in the northern hemisphere, only a very short portion of it, to the east of Australia, being south of the equator. Proceeding from this line in either direction, north or south, we find the average temperature diminishing at the rate of about 1° Fahr. for 1° of latitude, and we find the greatest intensity of cold in the vicinity of the poles of the earth. The highest mean annual temperature known is that of Massowah, in Abyssinia, which is 87° 3′ Fahr., and the lowest is that of Melville Island, which Captain Parry, in 1819-20, made to be 1° 49′ Fahr. We find then a range of 80° Fahr., and within this range an almost infinite variety; and the slightest difference in the mean annual temperatures of two places causes a decided difference in their vegetable productions.

But there is another great cause of variation in temperature among different places on the surface of the earth, and it is the difference in their elevation above the surface of the sea. If we start from the level of the great ocean, and proceed upward, either on a mountain side or in a balloon, we shall find a diminution of the mean temperature at an average rate of 1° Fah. for a vertical rise of 352 feet; so that a difference of elevation between two places equal to this number of feet, makes a difference in their temperatures equal to what it would have been if they had been on the same level and had differed 1° in latitude.

We must not forget, however, that these great laws which regulate the distribution of heat, are subject to almost continual modification by the form and size of the continents, their general elevation, and by the hight and direction of the ranges of mountains which mark their surfaces. Thus the temperature of the western part of Europe is made many degrees higher than that of other

countries in the same latitude, because the form of the American continent is such as to change the direction of some of the great oceanic currents, and to throw upon the European Coast the warm water of the Gulf Stream. The snow line in the Bolivian Andes of South America, between 14° and 20° south latitude, is 2,000 feet higher than it is under the equator, on account of the greater elevation here of the mass of the land. For the same reason, on the north side of the lofty chain of the Himalaya Mountains, the line of perpetual snow is 3,000 feet higher than on the south side; the general elevation of the plain of Thibet being about 10,000 feet greater than that of the Ganges plain on the south.

Equally well defined are the great laws which regulate the distribution of moisture on the surface of the earth. By looking upon a rain-map of the world, we see the darkest colors, indicating the greatest fall of rain, in the Torrid Zone. As we approach the poles, the quantity of water falling from the clouds diminishes. In some localities near the equator, we find a fall of 300 inches, or 25 feet, in a year; while in the north of Europe the fall does not exceed 10 inches. We may also observe that some regions are entirely without rain. This sometimes results from the great law of the winds, and sometimes from the forms of the continents and the direction of the mountain ranges. For example, the rainless region of the Sahara is on the boundary between the trade winds, blowing from the north-east, and the winds of the North Temperate Zone coming from the south-west; and thus, whatever moisture there is, is blown away in all directions. On the contrary, in South America, on the Peruvian Coast, the absence of rain is caused by the position and hight of the mountain chain of the Andes; the winds here, blowing from the east, lose their moisture in crossing the high peaks of the range.

One distinction of very great importance should here be noticed. Although the equatorial regions have by far the largest amount of rain in the course of the year, yet the number of rainy days is much less here than in the temperate zones, and hence the water is not so equally and advantageously distributed. A given quantity of rain in the temperate zones, will therefore affect vegetation much more than an equal amount falling under the equator.

For the purpose of illustration, let us notice briefly the physical characters and the commercial success of one or two countries.—On the western shore of the old world there is a comparatively small island, which, from time immemorial has, with short intervals of exception, maintained an independent political existence. Sometimes it has even been the seat of a power wielded over continental kingdoms; and at this moment it is the boast of its people, that the sun never sets on the dominions of their queen. The area of its surface is 10,000 square miles less than that of the two States of New York and Pennsylvania, and yet it is known as *Great* Britain. And it is great, in population, in Commerce and

manufactures, in moral and intellectual strength, and in its remarkable history. Where shall we look for the cause of this greatness? Why should an island of such diminutive proportions take precedence of the kingdoms of the earth on land and sea?

Physically, Great Britain may be divided into three regions, having different characters. The eastern part, lying next the German Ocean, and extending westward as far as a line passing from the coast of Dorset to the coast of Yorkshire, is composed of chalk, green sand, oölitic limestone, and Oxford clay, among other rocks. No mountains are found in this part of England; and if there had been any, their tops must have been very much rounded, for the materials are too soft and crumbling for rugged crags and steep precipices. We see that the soil is calcareous and clayey, adapted to the cultivation of grain and to grazing.

In the next strip of country, extending as far west as the mountainous district, we find extensive beds of the new red sand stone, an older rock than the preceding, and immediately under it an abundant supply of coal and ironstone. The surface of this region is green and fertile, but much more hilly than the chalk country to the east, as we might, from the character of materials, expect.

On the western coast of the island we find the primary and transition rocks thrown up into mountain masses, with a rugged and sterile surface, a large part of which is fit only for sheep-pastures. Yet this tract is not without its wealth, for it yields those valuable minerals which characterize these strata, tin, lead, copper, zinc, plumbago, and a little silver.

So much for Great Britain geologically. Now, what are its meteorological advantages? It is situated in a high latitude, and would have a cheerless climate were it not that its coasts are washed by that warm stream, which, after a journey of eighteen months from its tropical home in the Gulf of Mexico, bestows upon this island a climate highly favorable to agricultural pursuits. The same cause which makes the British climate warm makes it also moist, and distributes the moisture with great equality.

No country is more accessible to the inhabitants of other parts of the world than Great Britain. It is inclosed on every side by navigable seas. Deep gulfs and estuaries indent it in all directions, and penetrate almost to its very center. The mighty ships which go down upon the great deep, glide gracefully among its corn fields and its coal mines. No climate is more favorable to health and long life, and its inhabitants exhibit in their physical and mental constitution the vigor which they inhale with its air.

Now, in view of these almost unparalleled advantages, it would require no prophet, even if her history had never been written, and her present commercial condition were unknown, to say that England would possess a Commerce scarcely equalled elsewhere. Strange, indeed, would it be if Commerce should not flourish in a

country so prolific both in mineral and vegetable treasures. And, in obedience to the great laws of nature which govern its development, a vast commerce has grown up here. Its progress was opposed in its very infancy by many a statute of Parliament and many a despotic decree of the Sovereign, (in those days when English Sovereigns were despotic,) enacted or issued for the benefit of some monopoly; and during its whole existence it has received little or no assistance from the government. But so powerful were the natural resources of the country, that the commercial interest, in spite of the injurious assaults of enemies, has continued steadily to advance, until every ocean is whitened with British canvass.

But it may be asked, is not British commerce due, in a great measure, to the manufacturing, for which the country is famous; and is it not an error to attribute it to geology and meteorology? No doubt Commerce and manufactures react upon each other and help each other forward. But let us for a moment look at the positions of the chief manufacturing towns of England, and see whether this great interest is not itself dependent upon the physical character of the country. Mr. Buckland has shown that nineteen of the large manufacturing towns on the island, are situated upon the new red sandstone, in that strip of country to the east of the mountains, of which we have already spoken. Their united population cannot be much less than one and a half millions. Among them are Bristol, Worcester, Birmingham, Manchester, Liverpool and York. They lie upon those inexhaustible beds of coal, upon which their character as manufacturing towns depends. So that, whether we consider the Commerce of this country as the direct result of natural productiveness, or consider it as springing from manufacturing industry, it finally resolves itself into a dependence upon the same conditions—the physical character of the country.

The peculiar character of the great South American peninsula is so striking in respect to its fitness for Commerce, as to make it a very proper example for our present consideration. Of this grand division of the earth, we may say that it is essentially tropical. Most of its surface is in the torrid zone. It contains the largest river basin on the globe, that of the Amazon, which has nearly double the area of the Mississippi basin, the next in extent. The course of this majestic river is eastward, and it lies very nearly under the equator. It is a mighty stream, having in some places a depth of 600 feet, and a breadth, at its mouth, of 96 miles. Its immense volume of water moves along with a fall, in the lower part of its course, which is scarcely perceptible. An eastern breeze blows perennially over its surface; for here the trade winds sweep over the country to the very base of the Andes, and sprinkle their watery treasures along its whole extent. Thus moistened and warmed by the rays of a vertical sun, the basin of the Amazon is incomparably more prolific in vegetation than any other region of equal extent in the world. While Humboldt was pushing his discoveries on this river and its branches,

he sometimes found it necessary to cut away with his axe in order to find room to lie down. Now, with such a soil, and the 50,000 miles of navigation furnished by this great river and its branches, who shall attempt to set a limit to the Commerce that will be developed here, when all this vast region is reclaimed from the state of nature in which it now is? At present much of the trade of Europeans and of the United States with South America is carried on by way of the Pacific Ocean, because that hitherto the Andes mountain range has furnished a large amount of the exported commodities of the country. West of this ridge there is no vegetation to support a Commerce, except in the country of Chili. In Peru and Bolivia the trade winds, blowing westward, lose their moisture in crossing the Andes, and the western coast is left rainless, and almost dry. The western Commerce, then, evidently depends upon the mineral wealth of the mountains. But this, in case of the full navigation of the Amazon and its branches, could easily be transported eastward into the Atlantic, which would bring the trade of the whole peninsula into that great highway of European nations. Indeed, this seems to have been the intention of nature, for, while the eastern coast is studded with harbors, some of them the best in tho world, on the Pacific coast we find very few, and those few, in Peru and Bolivia, exceedingly poor.

But, in looking forward to the transformation of the Silvas of the Amazon into a civilized region, we must not forget the effect which their climate and extreme fertility are likely to produce upon the people who settle there. The truth is, that the geology and climate of a country affect not only its manufactures and Commerce, but also, to a very high degree, the character of its people. Although much, and perhaps most, of the difference between us and our neighbors the Mexicans, is due to the difference in the stock from which we severally sprung, yet it cannot all be thus accounted for. Our sterile soil and rough climate have done much in the way of energizing our character here in New England. Mankind need the stimulus of necessity to make them laborious. No race, even though it have a strong infusion of Anglo-Saxon blood, can long retain its vigor in a country where nature produces abundantly for man's wants with little labor on his part. It is not unreasonable, therefore, to apprehend that the civilization of this great region may be retarted on this account.

Nothing better illustrates, however, the influence of physical causes upon Commerce than certain changes, which, from time to time, have been made in the exports and imports of different countries. A plant is sometimes introduced into a country which displaces another, previously cultivated, on account of being better adapted to the soil and climate. On the contrary, it sometimes happens that the cultivation of a plant is discontinued in a given locality, because another place has been found with physical conditions better fitted to its growth. Thus Indian corn and the potato have taken the place, in some parts of Europe, of other plants; and the latter, in particular, has become the principal article of food in some localities. At the same time, the culture and exportation of the fruits of the vine and olive have, in many parts, entirely disappeared. But the most remarkable instance of this kind is furnished by the history of the sugar culture. The sugar cane, in ancient times, was cultivated for its juice in India and

China. Afterwards, we find it introduced into the islands of the Mediterranean by the Saracens, while, at the same time, the culture was carried on in Egypt. These people also carried the plant into Spain, where sugar became an important article of export. We next find it in the Canary and Madeira Islands; and after the discovery of the New World it was introduced into the West Indies. Since this time the exportation of the article from the places previously named has entirely ceased, and we find it largely imported into some of them. How is so great a change in the commercial relations of these countries to be accounted for?

According to Humboldt, sugar will thrive best where the mean annual temperature is 70° or 77° Fahr., but it may be grown with some success where this mean is as low as 64° Fahr. Other things being equal, then, places which have a mean temperature of 76° to 77° will drive all other sugar producers from the market, and if they are sufficiently extensive, will ultimately supply all the world with this commodity. Now, the southern part of Spain and the Mediterranean islands have a mean annual temperature of 64° to 66° Fahr., and consequently, although sugar may be grown in these localities, they are only third-rate producers, and have long since retired from the competition. The mean temperature of the Canary Islands is a little above 70°, and sugar was exported here after the exportation from Spain had ceased. India has a temperature a little above the most favorable, and therefore has not attained the highest success in the culture. But the island of Cuba, and a portion of the eastern coast of Brazil, have the mean of 77°, and accordingly we find that these localities are the chief seats of the manufacture. The quantities raised elsewhere are comparatively small. If we take the produce of Louisiana at the ordinary estimates, we will find that it does not amount to one half the quantity consumed in the United States. The temperature is too low, the mean at New Orleans being only 69°.

In the history of the sugar trade we perceive the effect of inflexible natural laws. To these all human plans and regulations must yield. Suppose that Spain, while she was engaged in the cultivation of sugar, had, in order to secure that interest against competition, prohibited the importation of Sugar into the Peninsula; and to view the result in all possible aspects, suppose that by this measure, she had succeeded in crushing the business in the West Indies. What would have followed? In this case one result would have been, that all the world would have been obliged to pay a higher price for sugar than they now do. But the business would not have been crushed, and the actual result would have been that all the world except Spain would have been furnished with sugar at a low price, while her people would have been obliged to pay a high price for it, and the measure would have benefited no one except the few persons who were growers of the commodity in Spain. Thus it is with all restrictions upon Commerce, they always operate injuriously upon the country which adopts them.

The development of Commerce, therefore, depends upon physical causes. Yet it must be admitted that certain races of men, on account of superior intelligence, energy, and enterprise, seem to be better fitted to succeed in this pursuit than other races are. But it is

thought that on examination, the difference between the races, in this respect, will be found to arise more from diversity in the physical characters of the countries which they inhabit, than from any original constitutional differences. Suppose that those hardy men who first settled New England had been thrown into the interior of Africa, and the same accessions of population to have been made, from time to time, to the colony, that actually have been made in the United States, it is by no means probable that in the same time they would have made one-tenth the progress in civilization that has been made in this country. At any rate the establishment of our present Commerce in that part of the world would have been impossible; the scarcity of harbors and of navigable rivers, the unhealthfulness of the climate, the separation of the fertile spots from each other by large tracts of desert, would have absolutely forbidden it. But if we suppose the emigration to have taken place in the time of the Saxon invasion of Great Britain, we shall have a still more striking result, and we can scarcely satisfy ourselves that such a colony would have escaped almost any degree of degradation.

Commerce depends upon the physical characters of the globe, and not upon legislative enactments. Indeed, so obvious is this truth to those who have investigated the subject, that one writer of very high authority says, that the best thing which governments can do for Commerce is to let it alone. It needs the help of few laws, besides those great and universal ones by which a beneficent Creator governs the work of his hands.

ARTICLE V.

Architectural Engineering.

BY J. K. FISHER.

(From Appletons' Mechanic's Magazine.)

In a well-planned city, house, or store, there are numerous appliances which architects formerly had little to do with, and which, *therefore*, the architectural schoolman leaves to the consideration of the different men who put in the water and drain pipes, the gas-pipes, the warming-pipes or flues, and the ventilators, if any there happen to be. In consequence of this want of unity in the direction, great expense is incurred in the first instance, and perpetual derangements occur, involving frequent expenses for repairs, and damages to the building and its goods and furniture, disgust to its tenants, and great injury to its proprietor. All these evils indicate the necessity of an alliance of architecture with mechanical engineering; and, though it is possible that a mere alliance may serve for utility, it would be far better that the artistic and engineering talents should be united in the same person.

Considerations of great importance demand this union. Beauty of design cannot be preserved unblemished, if the mere engineer, still

less if the mere mechanic, be allowed to place his disfigurements wherever it suits his convenience. His gas-pipes deform every corner, his sink and drain-pipes are put where he finds most room, his water-pipes where they will freeze, his warming-pipes where they will be troublesome, and all his contrivances where they will impair whatever unity and beauty of design the academic architect may have borrowed from his illustrious predecessors. Utility, and durability, and economy of construction, alike require that the engineer should have much to do with the planning of the building. But two heads, in this case, are *not* better than one. The stupidest should be dispensed with, and the clearest should comprehend that it has a nobler function than to be a mere assistant to the boss carpenter. It should comprehend that the beautiful forms its imagination may body forth will be marred, and fulfill no useful function completely, if creative genius neglects its duty, and leaves to the stolid mind of the mere workman the organic details, without which no architectural work can much longer be tolerated.

Mechanical engineering has already become a science. It has its records, its defined principles, its books full of examples and suggestions, and the artist may soon master it, and make it his invaluable servant, instead of his troublesome enemy. Let him look to it, if he would emancipate himself from mortifying contentions with tinkers, plumbers, and other rude ministers to mere necessities, who, without his control and supervision, are like the brute faculties of a lunatic; but who, under his direction, would contribute to place architecture far above the classic models whose beauty makes him forget that art is eternally progressive.

It is but a few years since merchants were content with plain brickwork—mere boss-masonry—without symmetry, style, or attempt at beauty. That time has past, and the boss-masonry is yearly pulled down, or let to the coarsest uses. Some pretension to style is now an element required, and the *draughtsman*, if not the architect, is called upon for service, if not for direction. And when once a few examples of complete architecture, for commercial uses, are placed before the mercantile community, the abortions of the unorganized draughtsmen and craftsmen will fall to the tallow-chandlers and leather-dealers, or be pulled down, to make room for works of utility, sanctified by beauty. That time may come even sooner than dreamy schoolmen expect it, and before they are prepared for it.

I propose, in this paper, to give a few hints which occur to me, as to what is wanted in buildings for ordinary uses. But I make no pretensions to the ability to inform students *exactly* what should be done; all I expect is, to indicate what is wanted, and what, from its general absence, or its defective planning and execution, I suppose to be generally unknown or neglected.

The Hydraulic Apparatus of a city building, especially if it cover the whole lot, is of the utmost importance, and it is usually so constructed as to be frozen, to be clogged, to get dirty, to be a nuisance from its filthiness, and to make frequent or constant noise, and to get out of order. The first consideration of the architectural engineer, in his plan, should be to place his pipes where they will be protected from currents of cold air, by a thick covering of some ma-

terial that will not conduct heat. The next consideration is, that they should be safe from injury by straining, or other causes; and in order that no accident of this kind may occur, they should be of iron, of such strength that servants cannot injure them by violent punching with iron pokers, and other instruments they may use to drive through them the rubbish they throw in. Nearly all the trash in some buildings is thrown into the bath-tubs and privy-basins; and when it clogs them, it is punched until a hole is punched through the lead pipe, and the building is drenched with foul water. This drenching, after a few repetitions, exasperates the occupants of the lower part of the building, if it be a business building, and they shut off the water at night, which is the only time when it will rise to the upper floors. The water then becomes deficient, the apparatus cannot be flushed, more clogging follows, more punching, more repairs and alterations, each worse than the others, and so on until the best tenants desert the building, in which they are annoyed by intolerable stenches, and cannot at all times obtain water.

As a convenient and economical apparatus for bedrooms and office-closets, I suggest the following:—The basin to be of the height suitable for a wash-stand, so that the wash-bowl may be set upon it, and emptied in it without trouble. The self-acting valve, so much in use, should not be adopted, as they get out of order. The conical cock is more reliable. The wooden seat should be so weighted as always to remain upright, except when held down: and the axis upon which it turns should be provided with arms, from which rods should go to the arms of the cocks and basin-valve. If there be always a head of water, it will be better to have the water-cock provided with a weighted lever, and not connected with the seat-axis; the flushing will then be more effectually done by the rapid flow, and little water will be wasted, as the cock will be closed by the weight, as soon as the hand is withdrawn. The best contrivance for directing the water upon the sides of the basin is a tabular ring around the top, with slits or holes occupying a line clear round, and projecting the water, so that it will strike the sides of the basin at a very acute angle.

The urinary, which has been introduced to prevent the seat from being wet, is superseded by this arrangement of a lifting seat. A great expense, and a greater nuisance, are thus got rid of. The urinaries most in use are not flushed at all; there is a small stream of water running into them, which wet but a small portion of the bottom, and not even spatters the sides, which never get rinsed, and always smell badly. Tobacco quids, stumps of cigars, papers and miscellaneous matters accumulate, and stop the outlet. There is filling up, fermentation, overflowing, &c., &c. In short, the urinary is a worse than useless addition to the cost of a water-closet.

Ventilation in a water-closet is absolutely necessary. At present it is sufficient to say that from the basin there should be an air passage leading to the main passage through which the impure air is exhausted, and also at the top of the closet there should be another exhaust passage.

To produce a constant and ample general ventilation by the difference of the density of the internal and external columns is an impossibility. It may be much better than no ventilation; but in a large

building, where there are many persons, there should be a sure mechanical means of exhaustion. And this may serve also to produce the draught of smoke. An exhausting-fan, such as is sometimes used for steam-boilers, turned by a small steam-engine, or by any power that will work uniformly, will be a great promoter of comfort and health, and will save more than its cost.

The Warming Apparatus of a building full of lodging-rooms or offices is a matter which should be studied by the architectural engineer. Perkins's has been much approved. It is, however, more agreeable to have the warming-pipes at a temperature not much exceeding that of boiling water. Steam is preferable to hot water, when it can be as conveniently used, because the temperature is the same in all parts of the apparatus.

The complaint usually made against these modes of warming is, that they seem to make the air "close" and impure. They do not contribute to ventilation as fires do, and so the air, vitiated by respiration, becomes excessively impure; but if proper means of ventilation be adopted, no unpleasant effects will result from the apparatus.

The fresh air should enter the room just under or behind the warming-pipes, so as to be warmed before it reaches the persons in the room; and the warming surfaces should be so arranged as to radiate as much heat as possible, in order that the air may remain comparatively cool, and the warmth be derived from the radiant heat, as it is from open fires. If these precautions be observed, this mode of warming will be found as agreeable and salubrious as any; far superior to what is called the hot-air mode, in which the air is heated before it enters the room, and it will be nearly as economical as the hot air, and far more economical than separate stoves or grates.

But the effect on safety, and the cost of insurance, is of great importance. The fire that warms a whole building or a whole block, should be in a fire-proof room, under ground. If steam of a temperature not exceeding 250° be used, it cannot set fire to any substances it is likely to meet with; it may therefore be said that it would obviate nearly all the danger which arises from the usual means of warming. To reduce the danger to the least possible amount, the fire-vault should be under the back of the lot, when it is vacant, or under the street.

It may be added that nearly all the cooking may be done by the steam or hot-water apparatus: boiling, and even baking, may be done by it. If hot water be used, a downward loop in the pipe will render it easy to boil in any vessel, by placing it so that the loop will dip into it; and if steam be used, heating vessels containing water saturated with salt will serve as efficient means to boil, in any vessel that may be placed in them.

Gas Lights, being stationary, are safer than movable lights. If ground-glass internal windows be used with judgment, the expense of keeping a feeble light throughout a house, by means of the hall and stair lights, will not be much; and if this be done, movable lights will be little used.

The gas-pipe should always pass through an outer pipe large enough to carry off the smoke and heated air, and any gas that may escape. This external pipe should be inserted into the glass that

covers the light, and held firmly by elastic packing; and there should be no occasion to remove the glass, except for the purpose of cleaning. The jets should be projected downward at an angle of about 45°, and the burners so arranged as not to cast shadows where they can be inconvenient. And it may be added that plain ground-glass should be used, so as to conceal the flame from the eye, and no ornaments allowed at the lower part which can cast shadows.

Windows, in narrow streets, should reach to the ceiling, especially if the rooms be deep, otherwise the rooms are lighted only near the windows; and it is more agreeable and useful to have the light come from a source above the usual range of the eye, since it shows objects more distinctly.

Buildings that are deep should not lose the immense advantage of skylights, which will make the upper story more valuable than the one immediately under it, if they be properly designed and constructed. The rolled glass, made in plates six feet square, affords perfect security against leakage. But the boss carpenters who design skylights invariably make them as inelegant and useless as possible. They are mere tunnels, which throw an intense light upon the floor, and leave the walls in darkness. The Italian architects have designed a curved ceiling, which receives light from the skylight, so as to have an even tint, neither too light nor too dark for beauty of effect. The walls also receive an equable light; and it is usual to decorate the ceiling with distemper painting—a cheap and agreeable substitute for which the paper-stainers would furnish, if called upon.

Dumb Waiters, or shafts, with lifting platforms, for the transmission of light articles to the upper rooms, are useful in many cases. If there be a porter, as there should be in every large office building, he will receive packages, and send them up to the tenants, giving them notice by a touch of the bell, or by a call through the speaking tube. Postmen and others would be much relieved by such a help to dispatch, and the wear of stairs and shoe-leather would be economized.

In Naples, it has become usual to have a professional cook in the basement of every large building occupied by families or lodgers. He furnishes meals to those who choose to patronize him, providing all the table furniture. The dumb waiter would very much abridge his journeys, and keep his servants from making too free with small matters.

But it is not necessary, for the purpose of this article, that I should enumerate all the conveniences which an engineer could introduce into a building. It is enough to point out, as clearly as may be, the general benefit of combining with architectural talent and taste so much of the science and genius of the engineer as may be requisite to render buildings convenient, salubrious, and economical. But I cannot well omit the elegant device of Jacob Perkins, by which the power of a steam-engine or other prime motor may be transmitted to all parts of a large building or block, or even to all parts of a town.

He proposed to exhaust the air from a large chamber, from which pipes run to all parts where power is required. Engines, working with atmospheric air, exhaust into these pipes. Thus the heat and odor of oil, that are annoyances attending steam-engines, are entirely

avoided; and there is perfect safety from explosions, fires, leakages, &c. Such engines, to do the lifting in a warehouse or store, would be convenient and cheap, if it were the custom to use them; and the ventilating-fans and small engines for domestic uses, might be worked in this way without being in any way troublesome.

Were such engines in use in stores, they would lead to another improvement. There would be room for carts to enter, and receive their burdens from the hoisting apparatus, without the labor and damage which attend the tumbling of boxes over the sidewalks. All these and other conveniences will, in time, follow the architectural engineer, when he shall have established his just dominion over builders, plumbers, tinkers, and other mere workmen, whose rude tastes are beyond the control of science and reason, and whose mere bone and sinew labor needs to be directed by the brains of men of science and genius, to make it productive of any thing agreeable or economical.

ARTICLE VI.

French's Plan of Overcoming Steep Grades on Railroads.

In Senate of the United States, Mr. FOOTE made the following Report.

The select committee to whom was referred the petition of James S. French, asking an appropriation of Congress for the purpose of testing the practical value of a new plan of railroad and locomotive-engine lately perfected by him, have had the same under consideration, and, after a careful examination of the subject, beg leave to submit the following report:

The plan of Mr. French is certainly original, and is the only one known to your committee in which smooth wheels and the rails of the track are so arranged as to enable the engine to work readily and safely far higher grades than have heretofore been attempted in connexion with railway transit. This is effected by a very slight modification of the present plan, and consists in substituting pressure for weight in producing the required adhesion.

The apparatus by which adhesion to any extent desired by the engineer may be produced at pleasure, is a simple, compact mechanical contrivance, costing but a few hundred dollars, readily attached to any engine, and may be thrown in or out of gear instantly by the turning of a steam-cock. When out of gear, it is lifted some twelve or eighteen inches above the rails; and the engine in no way differs from the common locomotive, but runs read-

ily, by the adhesion due to its weight, over the level portions of the road.

This plan, therefore, adds nothing to the expense of constructing a railroad save a small increase in the weight of the rail on heavy inclines, where a large business is done; but saves time and expenditure in grading, reduces the weight of the engine, and consequently the working expenses of the road; gives greater security to railway travelling, and suggests the introduction of railroads with machinery so light as scarcely to exceed in weight the ordinary mail stage.

Surely, the present system must be regarded as greatly defective, when to express even the President's message, contained in a few newspaper slips weighing but a few pounds, it can only be done by some thirty or forty tons of machinery; and the disproportion throughout the system between the dead-weight and paying-load, whenever passengers or light articles are transported, is so great as to account readily for the great depreciation in railway stocks. This invention, by substituting pressure for weight, equalizes this disproportion, and suggests an entire change in a system which has absorbed, and is absorbing, all the floating capital of the world. It proves that millions of dollars have been unnecessarily expended; and, looking to the future, multiplies roads and distributes their advantages at a greatly reduced expenditure of time and money.

Your committee have no doubt that, on this plain, far cheaper railroads may be constructed and safely worked, with corresponding light machinery, than any now in use; nor can they doubt that, by it, an engine may be made to ascend any required grade. These things are perfectly apparent from the working model which has been submitted to our inspection, and we see nothing whatever to justify us in asserting that this invention will not accomplish all the inventor claims for it. The application of a well-established principle is so simple in this invention, we can see no reason why it will not work as well on a large scale as on a small one; and, referring to the experiments heretofore made by the inventor on this plan, our confidence is increased in the believe that he has perfected (regarding the vast interests to be affected by it) one of the most remarkable improvements of the age. He has supplied what has ever been considered as the greatest desideratum in railway motive-power—namely, sufficient adhesion for the engine on the rail. It was this want of sufficient adhesion which for many years delayed the introduction of railroads into common use, and led to a vast expenditure of time and money, and much ingenuity, in remedying this defect. With the exception of an ingenious contrivance, which gave to the engine legs, to enable it to push a train of cars, all the early plans for obtaining adhesion consisted of cog-wheels and rack-rails, in some form or other.

Some few years after the building of the Liverpool and Manchester railway, a centre rail, pressed by two horizontal wheels, driven by extra cylinders, was tried in England and found too complicated for use; and all these various contrivances have, with slight modifications, from time to time, been brought before the American public. In addition to these, many other plans have also here been resorted to to obtain the same end. The tender, by means of a lever, has been made to add a portion of its weight to that of the engine, when required; the steam of the boiler has been conveyed into perpendicular cylinders and made to exert its entire pressure on the driving-axles; and the ordinary driving-wheels of the engine have, on inclines, been substituded for very small wheels running on elevated rails, thus increasing the power of the engine by diminishing the diameter of the driving-wheels. Magnetism has also been invoked, to furnish the necessary adhesion, with many other suggestions which we have not time to enumerate. None of these, however, have answered the purpose, and the growing wants of the railway have only been supplied by heaping weight upon the engine, until it has become a huge steam-tug, with the sand-box, as an appendage, for sprinkling the rails—thus carrying within itself elements of destruction which no road, however well built, can long withstand; for, while the huge engine presses the road into the earth and laminates the rails, the sand which it sprinkles cuts away its journals and greatly adds to the wear of the road.

We have examined and reviewed all these various plans for the purpose of comparing them with the one now before us; and while they serve to strengthen our convictions that the railway system can never be perfected so long as weight limits the power of the engine, they confirm us in our belief that Mr. French's plan is the most simple, the most effective, and most readily adapted to the present system, which has yet been suggested.

The model which has been for some time working in the Capitol shows at a glance the whole arrangement. It consists of a common wooden superstructure, with a flat bar-rail: the ends of the cross-timbers are cut off flush with the sleepers, and the flat bar resting on the sleepers projects over on the outside of the track, forming a clear continuous space on each side of the road for friction rollers, or small wheels, to revolve up against the projecting edge of the rail. The cranks are attached to the ends of the driving-axle, and between these and the driving-wheels is suspended from the axle, on each side, a friction roller, or wheel, which is made to drop at pleasure directly under the driving-wheels. Using the driving-axle as a fulcrum, by means of a compound lever, these friction rollers or wheels are pressed up at pleasure, and to that extent press down the driving-wheels, producing instantly whatever amount of adhesion may be required,

The tread of the driving-wheels is as wide as the rails, and the friction rollers revolve just under them, with flanges to prevent their rubbing the sides of the road. These friction rollers or small wheels, when not required, are instantly thrown up some eighteen inches above the track, where they remain until they are again required, when they are instantly thrown into gear. This facility of removing them adapts the engine in all respects to the common road, and requires a modification of the rail only in working the inclines.

That a road on this plan may be as substantially constructed as on any other, your committee do not question, nor that the heavy rail may be readily adapted to it; thus giving to the road, however constructed, the use of machinery directly suited to its wants. Light engines, with light loads, at high velocity, while on the same road, might follow freight engines; and even these greatly reduced in weight, with large loads, at slower velocity; and the adhesion being at all times ready and certain, induces the belief on the part of your committee that roads with high grades can be worked in all conditions of the weather, with more certainty and regularity than are now the more level lines. The various modes which suggest themselves for elevating the rails, and fastening them down, as well as for taking advantage of this principle, will readily occur to mechanical minds, and your committee therefore deem it unnecessary to dwell upon them. They think it important, however, to call attention to the fact that the railway, now always seeking level lines, frequently passes at considerable and inconvenient distances from villages and towns, which are in a great measure cut off from their advantages, which could have been readily reached by grades of even one hundred feet to the mile; and when they reflect upon the immense sums which have been spent to reduce these grades, and on the great benefits which railways, notwithstanding all their expenditures, have conferred upon the public, they cannot but admit that any plan which multiplies these facilities at a greatly reduced cost, must be regarded as one of the most valuable contributions of the age. Nor can they forbear stating, that the form of road here proposed suggests the attainment of far greater security in railway travelling than can now be had, and admits of the application of new and most effective brakes.

The plan before us promises these wonderful results, and there is nothing in theory which disproves them. The early history of railroads shows that their introduction was for a long time delayed after engines had been constructed to move over roads, in seeking to give them greater adhesion to the rails than that due to their weight. The first engines built were remarkably light, and, using only one pair of driving-wheels, their adhesion was due only to that part of the weight of the engine which rested upon them; and this was not equal to their steam power, for it was shown by

experiment, that an engine with mechanical adhesion (cog-wheels in this instance,) could be made to draw five times as much load as by the adhesion due to its own weight: still, the adhesion due to its weight was sufficient to give the engine a progressive motion, and the advantage of smooth wheels and rails introduced a system in which the steam power of the engine was limited by its weight; and subsequent builders finding if the engine had more power than adhesion, it was not available, cut down its steam capacity to the latter standard.

Even at this time, it was no doubt apparent that the heavier the engine, the more it would draw; but it was then claimed for iron rails that they would last for half a century; and regarding heavy machinery as very detrimental to them, they forbid its use, and the Liverpool and Manchester railway was worked for many years with a standing order from the directory that no engine weighing more than six tons should be placed upon the road.

The adhesion due to these light engines fluctuated greatly on account of the weather, and gradually led to the introduction of heavier ones, with corresponding increase in the weight of the rail. From that time to the present no improvement has been made for increasing the adhesion of the engine, other than the mere connecting together several pairs of wheels for drivers, and thereby rendering available more of the weight of the engine than can be done by a single pair. To increase the adhesion of the engine, we must now increase its weight; and yet we cannot increase its adhesion, directly, in proportion to the weight added: if we could, the present system would not be as defective as it is. Experiment teaches that one pound of iron suspended from a pulley, will move on a plane six pounds of iron, resting on iron; hence it is said, the adhesion of iron upon iron is equal to one-sixth the insistent weight. If this be so, it requires six tons of weight to be added to the engine to give it one ton of adhesion—six pounds added for every one pound gained. But actual practice on railways shows that the adhesion is not worth so much, but is, under ordinary circumstances, probably nearer one-eighth or one-ninth of the insistent weight, and fluctuates greatly below this standard when affected by the weather; so that it will be seen, while the size of the boiler and its effective power may be increased directly in proportion to the weight added, the adhesion of the engine cannot be, but, for every eight or nine pounds added, can gain but a single pound; yet the adhesion limits the tractile power of the engine. It is, therefore, and has ever been, since the introduction of the present system, the object of engine builders to make these forces proportionate, for if the steam power be greater than the adhesion, the wheels will *revolve*, but not *progress;* if less, the engine remains stationary.

We have entered thus minutely into this branch of our inquiry, to show that heretofore there has been no inducement to combine

in the locomotive engine as much power as possible, with as little weight; but that, on the contrary, all the inducements held out have demanded more weight. From this view, your committee are convinced that the locomotive engine may be greatly reduced in weight without diminishing its steam capacity, and yet be made to retain sufficient strength for all practical purposes. In examining this subject of the practicability of ascending high grades on railroads, your committee have had their attention directed not only to the many various plans which have been suggested for effecting this object, but they have also examined the various reports of the performances of steam-carriages on common roads in England, reprinted in 1832 by order of the Congress of the United States. On the common roads the roughness of the earth's surface afforded sufficient adhesion; and the great object then to accomplish was, to adapt the engines to the undulations of the roads, and give them as much power as possible, and the necessary strength with as little weight as was practicable. In this report several very important facts are stated, or rather exhibited: First, that these steam-carriages, from weighing five and six tons on their first introduction, were improved upon until they were reduced in weight to two and a half and three tons, without lessening their effective power; secondly, that there was far less disproportion between the weight of the machinery and the available load than is now ordinarily exhibited on railways; and thirdly, that they hauled up steep inclines far greater loads, in proportion to their weight, than can now be done by the ordinary locomotive on a railway.

These facts but serve to strengthen the opinion, before expressed, that locomotive engines may be constructed much lighter than those now in use, with equal capacity to generate steam; and whenever it shall become the interest of builders to supply light engines, combining the greatest steam capacity with the necessary strength, American ingenuity will not be found wanting in capacity to construct them.

That, by mechanical adhesion, a properly-constructed locomotive engine may be made to draw far greater loads than it can do by the adhesion of its weight, is undeniable, as has often been shown in practice, and may at any time be proved by converting a locomotive into a stationary engine. Your committe, therefore, feel great confidence in the opinion, that if mechanical adhesion, as applied in the plan before us, be substituted for weight, engines may be made to draw remunerative loads over much higher grades than any now used, even such as are worked with assistant engines. These opinions are not in harmony with the current thoughts of the day; and simply because, having long been accustomed to seeing things done in a particular way, we come to regard that as the only way in which they can be done. We see a huge engine drawing a train, and another monster engine pushing it up a grade of eighty or one hundred feet to the mile; and

the labor appears so great, one is apt to think the working of grades cannot prove remunerative, when, in the instance referred to, the weight of the engines themselves may have constituted the greater part of the resistance.

If twenty years ago it had been proposed to work a grade of eighty feet to the mile with the common locomotive engine, it would have been thought entirely impracticable, as it was when it was claimed that engines could be made to run twenty miles an hour; so much so, that one writer, in derision of what he deemed to be so absurd a proposition, published his opposition to it, with the declaration that, as soon as incur the risk attending such velocity, were it possible to obtain it, "he would consent to be placed in a mortar and shot out of it head-foremost."

When we look abroad at the wonderful effects of steam, and the various offices in which it is employed, and reflect that it never tires, but performs the most arduous duty as readily as it does the lightest, laboring incessantly, and demanding only water and fuel—when we see it driving across the ocean the largest vessels which float, regardless of opposing winds and waves—we have been led to wonder why it should have ever been regarded as insufficient for hauling a train of cars up an inclination of a few hundred feet to the mile. The want of adhesion explains it; and the power of steam shows, when the supply of adhesion shall at all times become equal to the demand, then will grades be worked with as much ease as level lines.

Your committee feel also convinced that the plan for producing mechanical adhesion now proposed, will offer less resistance to an engine ascending a plane, than it would were the same quantity of adhesion produced by weight. This is illustrated in the model we have examined. This works generally a grade of about 1,100 feet to the mile, and the engine is made to ascend by means of adhesion produced by piling on the engine, just over its driving-wheels, a sufficient weight to produce the required quantity. This is then removed, and mechanical adhesion is produced, and with this the engine moves up the plane more rapidly and steadily than when loaded with the necessary weight. That this effect, exhibited in the model, will be realized in practice, your committee do not doubt. When the locomotive engine shall become limited in its power only by its steam capacity, it will be so much more powerful and effective than it now is, we may reasonably expect advantages almost as great to flow from this change in its character, as those which have hitherto accompanied its introduction.

In view of these things, and seeing nothing whatever in theory to disprove the utility or practical value of this invention, and confirmed in our belief by the working model, and by experiments heretofore made on quite a large scale, we recommend the appropriation by Congress of a sufficient sum to test fully, by practice, its actual value.

The inventor has spent much time and labor, and incurred great expenditure, in experiments and in perfecting his plan. He has demonstrated his success; yet the world is not prepared for the wonderful change he proposes: and the means he uses are so simple as rather to excite credulity, and awake opposition, than to favor its introduction. The history of inventions shows how great are the difficulties attending the introduction of anything new; and also that inventions the most valuable have, for years, often been delayed, and at last owed their success to some accidental circumstance. Nor can we in this connexion fail to remark that the first published conception of a railroad and locomotive engine, known to your committee, is due to Oliver Evans, a citizen of Philadelphia, who in vain attempted to awaken the public even to a consideration of the subject. The greater the interests an invention affects, the more difficult becomes its introduction; and it is notorious that almost all the valuable inventions of the world have been made by persons in no way connected with the subject they have so much improved. This also is made to operate against them.

Your committee, aware of the vast interests to be affected by this invention, and of the immense sums it may save the government in its contemplated railway expenditures, should it, in practice, realize the expectations of its friends, trust that an enlightened public opinion will sanction the appropriation of such a sum as shall be adequate for the purpose of fully and satisfactorily testing its practical utility, and of bringing it to the public notice.

From the American Railway Times.

MORRIS AND ESSEX RAILROAD.

Hackettstown, N. J., March 29th, 1853.

This improvement extends from New York City, by way of Newark, to Dover, in New Jersey, and is now under extension from the latter place to the Delaware Water Gap, where it will unite with the road running from the Gap to Stroudsburg and the west. Thus extending to the travelling community a line of, say one hundred miles less by this route to the Great Bend, than the Erie Railroad.

That portion of the extension between Dover and Hackettstown is now under contract, and the Chief Engineer is very sanguine of its completion by the 4th of July next. There is certainly no obstacle of a serious nature to prevent its consummation, and that period is looked to as a new era in the affairs of West Jersey. The route of this road may be called favorable, exceedingly so. The grades are slight, limited to fifty feet per mile, and when the resources of the county through which it passes, the large and increasing population, and the great demand for Railroad conveyance, is considered, this may with safety, and without fear of contradiction, be termed a safe and judicious investment. Immediately upon its completion to this place, it is the intention to put that portion to the Water Gap under contract, and push it forward as rapidly as possible. The distance from this point to the Gap is say, twenty-five miles, and with a little exertion, could be built in twelve or fifteen months. The bridging is a mere trifle, and but one tunnel of 250 feet in length.

JOURNAL OF INTERNAL IMPROVEMENTS.

North Missouri Railroad.

The County of St. Charles has set a noble example of public spirit—of an enterprising, enlightened and judicious character—to her sister counties interested in the North Missouri Railroad. She has subscribed $100,000 to the capital stock of the Company, and declared that it shall be paid by taxation. This act manifests a resolute earnestness and an equitable adjustment of the rights and duties of the citizens, making their liabilities and profits proportionate with their interests in this cause. And further, this act indicates great foresight, in as much as it places the credit of the subscription on a foundation as firm as the rocks on which her rising city is built, and secures a more rapid rise in the value of her property.

That the other counties of North Missouri, interested in this improvement, may, with the utmost unanimity, follow the example so wisely set by the County of St. Charles, we will here offer a few considerations to remove the *prima facia* prejudice—a natural though unjust prejudice—against taxation for stock, and to arouse a partiality—a prudent and honorable partiality—in favor of this sound and equitable means of raising funds to put this work into speedy operation, that it may bring immediate wealth and comfort to their homes.

A public good cannot be promoted without a public spirit, and it is too well acknowledged to need any illustration here that public spirit is mainly manifested by men of moderate means. The hard working mechanic and the busy merchant are made to bear an undue proportion of the burdens of public enterprises, while the high-living landlords and land-speculators sit like *incubi* on their victims.

True, there are a few glorious exceptions to this rule. There are land-princes who act nobly, who, without any compulsion of law, tax their energies and their possessions in full proportion with the public spirited man of moderate means. The Tax list of the County of St. Louis and the Stock Book of the Pacific Railroad prove both the rule and the exceptions. But besides the consideration of superior ability which should require the rich land-holder to do more for the cause of Railroads. than the mechanic or merchant of moderate means, the land-holder derives a manifold per-

cent. of profit from the road which the mechanic and merchant does not realize. The dividends of the road, it is true, are proportionately equal to all the stockholders; but the rents and fee titles of the land, are, by means of the road, raised 100 per cent. when the dividends of the road are only 10 per cent. Experience proves the facts to be far stronger than they are here stated. How much farther then does reason require that the landholder should advance before the mechanic and merchant in the promotion of Railroad enterprises? Moreover many and vast possessions of real estate in the West are held by non-resident speculators. Equity and good conscience declares, public justice requires that they should be compelled to do something in behalf of a cause, which promotes at the same time their own private interests and the public good.

How can the resident and non-resident landholders, whose private interests are above proved to be pre-eminently promoted by railroad improvements, be made to take their proportionate shares in this enterprise? The Legislature of Missouri have declared that it may be done by virtue of the common sense of the County expressed in an election. The unexpressed common sense of the people is felt to be that this law should be put in force for the benefit of the North Missouri Railroad. To facilitate the expression of this public opinion, it may be well to remove some impediments which make the mass stammer.

Ignorance of the amount of stock to be taken by each voter, of the value of the stock when taken, and of the benefit resulting from the road, is the main impediment to the free expression of public opinion on this subject.

That the people along the line of this road may be enlightened in this matter, let them take the case of St. Charles County.

The population of St. Charles County is, as per census of 1852, 12,492. The subscription for stock is $100,000, and therefore, of all the inhabitants, the average proportion of stock for each one is found to be $8.00, and the whole of this, need not be paid, it may be, for several years. When the first instalment is paid, at the end of the year a certificate of stock is given in exchange, which may be transferred like a Bank bill, and if sufficient stock be taken in the beginning to build the whole road, as may and should be done in conjunction with the State credit of $2,000,000 already granted, these stock certificates will serve as a valuable

currency in the trade of the country. The benefits resulting from the road will counterbalance its costs in manifold ways—by drawing population into the country; by drawing money; by raising the value of vegetables, poultry, milk—all kinds of produce at the home of the farmer, because these articles can be sent to market more easily; by lowering the price of goods, wares and merchandise at the home of the farmer, because these articles can be brought from the City more easily; by increasing the wealth of the mechanic and the merchant, because there will be more business for them to do, and they will be paid better and more promptly, because money will be more abundant, and the people richer; by lowering the tax rates, as there will be more people and wealth to pay them; and above all by raising the value of land, as there will be a greater demand for it, and more money can be made out of it.

The people of the other counties of North Missouri, interested in this enterprise, may see from the case of St. Charles County, and from the principles above advocated, how equitable, how easy, how safe, and what a brilliant speculation it will be for them to follow this example; and that, on an average of their inhabitants, they may surpass this example, it may be suggested they have greater need of the road as without it. St. Charles County is almost surrounded with avenues to market, while this avenue is almost the only hope for six of the ridge counties.

In order to concentrate as much light as possible at present on this subject, before the surveys are made, the route located, and stock taken, we will here present the most reliable opinion of the length and cost of this road from St. Louis to Iowa—being the opinion of those best acquainted with the topography of the country along the line indicated by the charter of the Company, combined with the opinion of those skilled in the science of Engineering.

The North Missouri Railroad is considered to be 250 miles in length. Its total cost is estimated at $4,500,000, being on an average $18,000 per mile.

How are these means to be obtained?

The State of Missouri has given its credit to the Company for the sum of $2,000,000, and thus a balance is left of $2,500,000 to be raised by subscription and otherwise.

On the 9th of May, 1853, the agents appointed to open books for the subscription of stock reported $650,800 subscribed.

Of this amount $100,000 are reported as having been subscribed in St. Charles County, and 516,000 as having been subscribed in St. Louis County, leaving $34,800 subscription of some of the other Counties on the line.

Such being the present condition of this enterprise, and nearly $2,000,000 being yet wanted to meet its estimated expense, what is the best mode of proceeding to obtain this sum?

Let the Counties along the line of the road be more fully advised, of the extraordinary benefits they will realize from this improvement, of the equitable, easy, safe and even inimitable method of taxation for stock, and let their enthusiasm and energy be aroused in the cause until, by a noble rivalry and heroic determination, the whole stock is subscribed.

Thirteen counties are deeply interested in this improvement. Their population and revenue, in 1852, was as follows:

Counties.	Population.	Revenue paid in 1852.
St. Louis	121,853	$88,754 79
St. Charles	12,492	3,368 66
Lincoln	10,461	3,017 98
Warren	5,776	1,741 59
Montgomery	6,064	2,090 21
Callaway	14,149	4,190 27
Audrain	3,845	1,232 68
Boone	14,565	6,070 98
Monroe	11,285	4,069 40
Randolph	9,917	3,449 81
Macon	7,517	2,000 00*
Adair	2,977	506 46
Schuyler	3,447	484 36
	224 348	$120,977 19

By comparing the population and revenue of St. Louis County with the amount of the population and revenue of the other counties, it is found to be as follows:

Counties.	Population.	Revenue paid in 1852.
St. Louis	121,853	$88,754 79
Other counties	102,495	32,222 40

From which it appears that the population of St. Louis County is more than equal to the population of all the others, and that the revenue paid by St. Louis County, in 1852, is more than

* Probable amount.

double the revenue paid by all the others. But it does not follow that St. Louis County should pay one-half the expense of building the North Missouri Railroad,

1st. Because equal demands are made upon the people of St. Louis in behalf of the Iron Mountain R. R., the Ohio & Mississippi R. R., and the Pacific R. R., and

2d. Because St. Louis County contains only 350,000 acres of land, and the other counties above mentioned contain about 3,-875,000 acres.

From all these facts, therefore, it appears that although on the basis of population and wealth, St. Louis County should take more than one half of the stock, yet in consideration of the equal demands made upon her for aid of three other Railroads, and in consideration of the additional fact that she has not one tenth as much land to be improved by the road as the other counties have, it seems that one-fifth of the stock necessary to build the road, which she has already subscribed, is her reasonable portion, together with the $2,000,000 State credit.

But it may be necessary for St. Louis County to double her subscription, to take $1,000,000 stock in this road—being two-fifths of the whole amount required, with the aid of the State credit, and then in consideration of the probable route of the road, and its probable proportionate benefit to the various Counties along the line, together with the comparative abilities of those counties, it seems equitable that the subscriptions along the line should approximate to the following order:

St. Louis County	$1,000,000
St. Charles	250,000
Lincoln	100,000
Warren	100,000
Montgomery	125,000
Callaway	100,000
Audrain	100,000
Boone	100,000
Monroe	125,000
Randolph	150,000
Macon	150,000
Adair	100,000
Schuyler	100,000
	$2,500,000

Taking the preceding table as a platform for operations, and deducting the subscription of $500,000 already made by St. Louis County on the Bond principle, it is found that an additional sub-

scription of $500,000 by St. Louis County on the Tax principle, will make on an average of all the inhabitants of the County ($4.-10) four dollars and ten cents stock for each one. And by dividing the balance of stock, $1,500,000 among the other counties, on an average of all their inhabitants, ($14.63) fourteen dollars and sixty-three cents, is all the stock that would fall to the lot of each one. And by the payment of ⅓ a year ($4.88), four dollars eighty-eight cents, is the only annual portion; and finally, by an energetic enterprise on the part of the people, in voting all the stock at once, on this sound, radical tax principle here indicated, all these little bits would, it is fair to conclude, be not only as good as Bank bills, but at a premium.

Should these suggestions meet with the approval of the above mentioned counties, an impetus would be given to the road which would not cease until Iowa became penetrated with it, and with the immediate importance of linking Missouri with Minnesota, where a charter has already been granted to the Louisiana and Minnesota Railroad Company, to form the final link in the chain of the great Mississippi Valley Railroad. The southern portion of this road is progressing with unsurpassed rapidity through Arkansas and Louisiana. Let the North Missouri people summon all their energies and their means, and direct them with unflinching perseverance in the prosecution of their portion of this work; let them petition Congress, to act on the memorials of the North Missouri and Mississippi Valley Railroad Conventions, that ten miles of land along the whole line may be granted to aid in the construction of this road; which land will enable the Company to meet the bonds of the State without a sacrifice of private interest; let the list of private subscriptions be swelled by the public spirited mechanics and merchants; let resident landholders advance their own proportion, and then vote for a tax, from which their advance will be deducted, and by which non-resident landholders and speculators will be radically compelled to take their proportionate shares in the enterprise; let the counties above tax themselves to the amount suggested; and let the County of St. Louis take 5,000 shares on the tax principle; and then Chicago, the Lake countries and the East will find a bold competitor for the prizes of the Northwest, business of every kind will be increased in St. Louis, the rise in real estate, by virtue of this movement, will far exceed the amount of stock in the road, the certificate of tax stock will be good as a Bank bill, and the value of the County Bonds, which are now at par, will be in demand at a premium, because capitalists will see that the success of this cause is as sure as if it were secured by the endorsement of "Manifest Destiny."

St. Charles, May 9, 1853.

HENRY COBB, Esq.

Dear Sir—The Board of Directors of the North Missouri Railroad Company met in this place to-day. Present, L. E. Powell, President, D. K. Pitman, Wm. J. McElhiney, B. A. Alderson, A. Krekel, A. King and R. B. Frayser, of St. Charles County; Jno. Harrison, of Callaway County; Thos. J. Marshall, of Warren County; Jas. S. Rollins, of Boone County; Jno. D. Coalter and Lewis Bissell, of St. Louis County; James H. Robinson, of Montgomery County.

A Quorum being present, the Board proceeded to the examination of the Reports of Agents appointed to open books for the subscription of stock.

The following is the result:

In Randolph County.....	100	shares,	$10,000
" Callaway "	32	"	3,200
" Montgomery "	130	"	13,000
"Audrain "	18	"	1,800
" Warren "	68	"	6,800
" St. Louis "	5160	"	516,000
" St. Charles "	1000	"	100,000
	6508	shares,	$650,800.

A sufficient amount having been subscribed to authorize an election, it was ordered that a meeting of the stockholders be held at the Court House in the City and County of St. Charles, on the second Saturday of June, next, for the purpose of electing thirteen Directors for said Company; the said election to be conducted under the supervision of Joseph H. Alexander, John Jay John, and Dennis McDonald.

It was further Resolved, that the books for subscription of stock be kept open for the purpose of obtaining further subscriptions, and that the commissioners make return of said books to the Secretary, on the second Saturday in June next.

No other business of importance was transacted, and the Board adjourned to meet in the City of St. Charles, on the second Saturday of June next.

Very respectfully, &c. BEN. EMMONS, JR.

St. Charles, Mo., May 11, 1853.

H. COBB, Esq.

Dear Sir:—Cant you stir up the *natives* in North Missouri so that the subscription can be increased sufficiently to get an issue of the State Bonds?

I have no doubt of the ultimate success of the enterprize.—But what we want is action now, and we want it here. If the Books

were open for foreign subscription, I have no doubt but the capital stock could be easily obtained abroad. But this should be a last step, to be resorted to only when all other means have failed.—The stock all ought to be taken along the line of the road, and the proper way in my humble judgment is to raise it by taxation. There are above this about eight or nine counties along the line of the route, besides several others near the line all deeply interested in this enterprize. A subscription by said counties proportionate to that of St. Charles with the additional subscription we way reasonably expect from St. Louis, would increase the stock to two millions. This with the State bonds to the same amount would nearly complete the road at least as far as its intersection with the Hannibal and St. Joseph Road.

I am confident that the plan of raising stock by taxation needs only to be understood to secure its adoption. The tax is not like a tax raised for the support of government for which no return is received except our privileges as citizens. In fact it is not a tax at all—it is only a loan of so much money to the Company, for the tax certificates will be convertible into stock or into cash with but little loss if any. We do not expect any depreciation of the certificates here. A large portion of the business men here will receive them in payment of debts and for services rendered, and in exchange for merchandize &c. at par.

Let the whole stock be taken along the route, and we will have such a road as its liberal minded projectors designed; it will be the people's road, in which they have a direct interest, and will be immediately under their view and control, bringing home its returns and profits to be expended here—not transporting them beyond the State to enrich foreign capitalists and speculators.

Very respectfully, your friend and ob't serv't, *

Iowa and North Missouri Railroad.

The people of Iowa are moving in conjunction with the people of Missouri, to weld the Iowa and Missouri links of the Mississippi Valley Railroad. Such movements will brighten the prospects of the North Missouri Railroad Co. The Valley of the Des Moines is represented as being remarkably beautiful and fertile, and increasing rapidly in wealth and population. The trade of the Des Moines Valley will be of immense importance to St. Louis, and the market of St. Louis will be of more than immense importance to the Des Moines Valley. The interests of the people of North Missouri will urge them to co-operate boldly with their Iowa neighbors, and the interests of the people of Iowa will not let them rest till this work is consummated.

In *The* (Keosauqua) *Democratic Union*, of May 14th, we find that a RAILROAD MEETING of the citizens of Appanoose and adjoining counties was held in the Court House in Centreville on the 4th of May, 1853. Harvey Dunlavy, Esq., Chairman, Hon. R. Riggs and John Potts, Esq., Secretaries. Messrs. McAchran, S. Millington, W. W. Cottle, H. Tannehill, and D. P. Sharps, Committee on Resolutions, reported, among others, the following, which were unanimously adopted:

Whereas, The State of Missouri has taken steps to build a Railroad, known as the North Missouri Railroad, from the City of St. Louis via St. Charles on the divide between the waters of the Mississippi and Missouri rivers, to terminate on the northern line of said State, in the county of Schuyler, in the direction of Fort Des Moines, therefore be it

Resolved, That in the opinion of this meeting early, determined and energetic action on the part of the people of this county should be had to secure the location of said road, through this county, via Centreville.

Resolved, That in the opinion of this meeting the county of Appanoose ought in her corporate capacity to subscribe $50,000 for the construction of said road.

Resolved, that the County Court be requested to make an order to open a poll at each election precinct at the August election, to vote for and against the stock named in the foregoing resolution, provided said road be located as provided in the first resolution.

Resolved, That the counties on said route between this and Fort Des Moines, be respectfully requested to lend a helping hand to secure the early location and construction of said road.

Resolved, That the citizens of Southern Iowa be requested to meet at Chariton, in the county of Lucas, on the first day of the June term of the District Court, to consider the best means of speedily constructing the North Missouri Railroad.

Resolved, That R. Riggs, H. Tannehill, J. M. Rynix, Geo. W. Sweringen, Dr. W. W. Cottle, David Bayley, N. Udell, Jas. Ewing, A. J. Stevens, James Monroe, Joseph Dudley, J. G. Manson, M. Summers, and A. Harris be appointed delegates to attend said convention at Chariton.

We may expect to hear of a judicious and liberal plan adopted at the CHARITON CONVENTION, which will fix the destiny of the Mississippi Valley Railroad through Iowa, and open the heart of that State to the treasures of the South, which wants and is ready to pay the fairest price for their produce. May they be impressed to act energetically and in harmony with the Law of Trade.

Arkansas and Missouri Railroad.

We noted the fact last month that the "*Cairo and Fulton R. R. Co.*" was organized at Little Rock, on the 13th of April, and the election of ROSWELL BEEBE, President, WILLIAM B. WAIT Treasurer, JOHN M. ROSS Secretary.

We will here add the list of the Board of Directors which is composed, as we are well informed, of prudent and energetic men who are in earnest about their business.

1. Hon. Daniel Ringo, Judge U. S. District Court, Little Rock.
2. Hon. Edward Cross, Marlbrook, Hempstead Co.
3. Hon. H. P. Poindexter, Washington, Hempstead Co.
4. James M. Curran, Att'y at Law, Little Rock.
5. William B. Wait, Merchant, " "
6. A. J. Hutt, " " "
7. Wm. C. Bevens, Att'y at Law, Batesville.
8. Edwin R. McGain, Planter, near Jacksonport.
9. Gen. Wm. R. Cain, Att'y at Law, Pocahontas.
10. John M. Mitchell, Farmer, Gainsville.
11. Thos. J. Blackmore, Att'y at Law, Osceola.
12. Israel M. Moore, Farmer, Searcy.
13. Roswell Beebe, Little Rock.

MR. BEEBE'S wide spread reputation for energy, perseverance and prudent management of business will materially enhance the credit of the Company. The Company have displayed great wisdom in electing him President, and investing him and an executive committee with ample powers to make bold movements and a rapid progress in the enterprize,—not only to obtain subscription of stock, but also donations of right of way and of land, and furthermore "to secure the services of a competent corps of engineers to survey the route of the road," &c.

The 9th sec. of the charter declares that "the said corporation may commence the construction of said road at any time after $100,000 of capital stock shall have been subscribed, and five per cent. thereon paid to the Board of Directors."

And as subscription books for stock in this Company were speedily opened at various places through the State along the line of the route from Missouri to Louisiana, enthusiastic meetings held and resolutions made to concentrate the mind and money of the

people on this great work, and as the Legislature of Arkansas has authorized and empowered this Company to survey &c. the road specified in the Grant of Congress, and as the Grant of Congress "*provided further*, that the lands granted shall be applied in the construction of said road, and shall be disposed of only as the work progresses, and shall be applied to no other purpose whatsoever," and as moreover these lands cannot be transfered by the State to any other company without infringing the vested rights of this one, we may conclude, that the stock necessary to begin the construction will be promptly taken, the final survey made, the route located, the lands selected, the legislature convened, the grant transferred and the road built—as the preliminary work is now being carried on—with rapid progress.

Last month we contrasted the productions of Arkansas and Missouri, and suggested the immense reciprocal advantages to each of these States by opening an avenue of easy trade between them.

This month we have received extraordinary confirmations of its advantage to Missouri. The Report of PROF. JOHN A. WARDER, on the subject of Arkansas Slate, is one of them (see ante page 84). The following letter from one of the Board of Directors of the C. & F. R. R. Co. is another eloquent testimonial of the wisdom of this policy.

Marlbrook, Hempstead Co., Arkansas,
April 24th, 1853.

Gentlemen—

I have just received the *Western Journal & Civilian* for the preceding year, together with your obliging note of the 15th inst. Both were peculiarly acceptable at this junction as an organization had just been accomplished under the Cairo & Fulton R. R. charter, and books opened to receive subscriptions for stock. I beg you to accept my sincere acknowledgments for the excellent article in the *Journal & Civilian*, under the head of "Arkansas and Missouri Railroad." It will, in my judgment, be worth thousands to the company by inducing subscriptions for stock in the Road. With our citizens the enterprize is gaining ground daily, and our friends abroad may rely upon that the Arkansas portion of the Mississippi Valley Road will be built. In the southern, or rather Red river portion of the State, its success involves a question of vitality, as without it, the country will have to be abandoned. With a rich soil and climate adapted to the culture of almost every production of the earth, we are without the means of access to market except at short intervals, and exceedingly oppressive rates. From three to eight dollars per bale, with three per cent. insurance, is

not unusual for the transportation of our cotton to New Orleans, and in the immediate section of country refered to, forty thousand bales are produced annually. Thus situated, I need not assure you of our zealous co-operation in everything calculated to insure success, or of grateful feelings toward those who may in anywise be instrumental in conducing to an end so vitally important.

You will I hope, continue to forward me your valuable Journal and consider me henceforth a subscriber, with the assurance that I shall encourage its circulation to the utmost extent in my power.

Very truly & respectf'y, yours, &c. EDW. CROSS.

MESSRS. TARVER & COBB, St. Louis.

These 40,000 bales of cotton from the southwestern corner of Arkansas, can be transported to St. Louis by the Arkansas and Missouri Railroad cheaper than to New Orleans by the river. At St. Louis we would have the cotton of Arkansas, as well as we have now the sugar of Louisiana, manufactured; and from St. Louis, we would have them distributed to consumers throughout the Mississippi Valley. The people of Arkansas would make money by the operation, both ways; and the people of this valley would save the cost of freights and various charges attending these articles to and from foreign depots.

We cannot close this article without expressing our unfeigned admiration at the devotion and energy manifested by ROSWELL BEEBE, the President of the Company, in defending and advancing this cause, and at the caution and sagacity of ELIAS N. CONWAY, Governor of Arkansas, in accepting and guarding the Grant of Congress, and securing all lands along the routes of railroads to the State.

FINANCIAL STATISTICS OF ST. LOUIS.—Comptroller's Report.

Bonded Debts.

From the "Mo. Republican."

			Interest.		Annual Interest.
Bonded debt of the City, April 12, 1852—commencement of the fiscal year 1852				$1.736,096	$107,553 76
Bonds paid during the fiscal year 1852—					
April 13, 1852, 1 Bond	1,000 00	6 per cent.	$60 00		
June 1, do. 50 do.	50,000 00	7 per cent.	3,500 00		
December 1, do. 29 do.	29,000 00	7 Per cent.	2,030 00		
April 3, 1853, 20 do. $500 each, $10,000; 49 do. 1,000 do. 29,000	39,000 00	10 per cent.	3,900 00		
Deduct	$119,000 00		$9,490 00—	119,000	9,490 00
				$1,617,096	$98,163 76
Bonds issued during the fiscal year 1852—					
100 for Harbor Improvements.					
Less 14 Cancelled by Mayor Kennett, April 8, 1853,					
86		$86 000			
90 for extension of new Water Works		90 000			
40 for improvements of Old Limits		40 000			
20 for improvement of Wharf		20 000			
70 for general Sewers		70 000			
38 for district Sewers		38 000			
26 for City Stores in Block 7, &c.		26 000			
54 to pay Bonds in Philadelphia		54 000			
50 to pay balances or deficits		50 000			
150 for stock in Pacific Railroad Company	$150 000				
100 do. in Ohio and Mississippi Railroad Company	00 000—250 000				
Add 724 Bonds, all at 6 per cent. interest				$724,000	$43,440 00
Total Bonded debt, April 9, 1853, as detailed in table				$2,341,096 Int.	$141,603 76
Increase, deducting $119,000 paid		$605,000			

Of the above—

$34,700 are 10 per cent. Bonds	$3,470 00	
2,281,396 are 6 per cent. do.	136,883 76	
25,000 are 5 per cent. do.	1.250 00	
$2,341,096	$141,60376	

The foregoing issue of Bonds, together with 40 on hand from the previous fiscal year, were disposed of as follows, viz:

1852.

April 13,	35	Bonds at 93		32,550 00
do. do.,	24	do. do. 93	22,320	47,020 00
do. do.,	26	do. do. 95	24,700	
do. 22,	20	do. do. 93		18,600 00
May 1,	20	do. do. 93½	18,700	37,600 00
do. 14,	20	do. do. 94½	18,900	
do. 18,	5	do. do. 95		4,750 00
do. 20,	54	do. do. 94¾		51,165 00
June 5,	26	do. do. 95¼		24,765 00
August 7,	10	do. do. 96		9,660 00
Sept. 10,	8	do. do. 96		7,680 00
do. 18,	20	do. do. 96½		19,300 00
do. 20,	20	do. do. 96 13–16	19,362 50	
do. 22,	3	do. do. 96⅞	2,906 25	29,063 12
do. 23,	7	do. do. 97 1–16	6,794 37	

1853.

Jan. 17,	6	do. do. par	6,000	46,080 00
do. 31,	40	do. do. par and int.	40,080	
Feb. 15,	30	do. do. par int. 4 m's 25 days		30,725 00
do. 17,	20	do. do. par		20,000 00
do. 21,	50	do. do. do.		50,000 00
do. 22,	30	do. do. do.		30,000 00
do. 23,	20	do. do. do.		20,000 00
do. 24,	20	do. do. do.		20,000 00
514				498,898 12

and 255 paid to the Railroad Companies at par.

AMOUNT OF BONDED DEBT FALLING DUE EACH YEAR.

1853,	4,800	1867,	70,000
1854,	5,200	1868,	100,000
1855,	43,700	1870,	200,000
1856,	38,400	1871,	407,000
1857,	28,000	1872,	428,000
1858,	53,200	1873,	210,000
1859,	34,896	1874,	54,000
1860,	22,200	1876,	70,000
1861,	200	1877,	66,000
1862,	90,000	1878,	46,000
1863,	4,000	1879,	50,000
1864,	75,000	1890,	25,000
1865,	95,500	1895,	50,000
1866,	70,000		

The bonds due the present fiscal year, 1853, are:

May 3, 1 funded debt bond	$1,000 00		
June 26, 1 " "	1,000 00		
Aug. 11, 1 " "	600 00		
Aug. 19, 1 " "	1,000 00		
	$3,600 00	10 per c.	N. Y.
May 22, 1 Headley & Turnbull bond	200 00	10 per c.	St. L.
June 12, 1 Harbor bond	1,000 00	6 per c.	N. Y.
Amount	$4,800 00		

From this exhibit, it will be perceived that the amount of bonded debt to be provided for each year, until 1862, is but small; for this, and the next, comparatively nothing; and with due economy on the part of each successive administration, can easily and should be paid, by the surplus revenue of each year, without resorting to the re-issue of bonds for that purpose.

The payment of the fifty bonds June 1, 1852, was made from funds specially provided therefor by ordinance 2,812. Those paid Dec. 1, $29,000, and April 3, 1853, $39,000, together $68,000, were made from the treasury by authority of ordinance 2,400, requiring the Comptroller to sustain the credit of the city by providing for the payment of the public debt and interest as the same becomes due.

For this purpose I submitted to the former City Council a bill appropriating that amount to bills payable, and authorizing the issue and sale of so many bonds as would be necessary to supply the deficiency, after applying the surplus revenue of the year to that purpose, as provided for in the charter. This bill, for want of time, I presume, was not passed by the Council before their final adjournment, and was left over with the unfinished business of the last session. The surplus fund of the year—that is to say, the excess of revenue proper over the appropriations for general purposes of the year, being, as appears from the table, a little exceeding $40,000, that amount may be applied to the payment of the bonds, which will leave to be supplied by the issue of new bonds therefor the sum of say $28,000.

Since the commencement of the present fiscal year, the following bonds have been issued, and are to be added to the table of bonded debt, viz:

April 30, 1853, 100 bonds issued and paid to Pacific Railroad Company..... $100,000
May 7, 30 bonds for new Water Works..... 30,000

These last were sold for cash at 100 1-10, and proceeds paid into the treasury.

Comparative Statement of the Receipts into the Treasury during the years 1851 and 1852.

		1851.		1852.	Increase.	Decrease.
Licenses		$25,755 00		$31,175 00	$5,420	$.....
Cemetery		402 45		226 35	.....	176 10
Vehicles		9,156 00		9,517 00	361 00	.....
Redemption of property		3,297 66		6,258 46	2,960 80	.....
Surveying fees		238 00		.....	.....	238 00
Water Works		30,824 85		36,995 38	6,170 53	.....
City Commons		1,610 32		3,449 97	1,839 65	.....
Ground Rent		441 00		441 00	.....	.....
Rent, store block 7		.....		1,500 00	1,500 00	.....
Market stalls and stands		13,940 08		12,430 68	.....	1,508 40
Fines and Fees		4,307 86		4,035 53	.....	282 33
Hay and Coal, Market Street	1,608 85		1568 10		.....	
do. North Market	1,942 20	3,478 05	1564 00	3,132 10	.....	345 95
do. Front Street	27 00					
Gas Light Dividend		1,700 00		1,800 00	100 00	.....
Contingent		344 52		926 00	581 48	.....
Merchants' Taxes		38,659 91		40,767 82	2,107 91	.....
General Taxes		322.521 19		361.421 02	38,899 83	.....
Harbor Taxes		31,720 77		17,670 42	.....	14,050 35
Wharf, Harbor Master	44,400 60		52814 33			
do. Lumber do	874 64	47,064 35	828 82	55,506 69	8,442 34	.....
do. Wood do	1,789 11		1866 54			
Special Taxes		6,652 62		6,400 91	.....	251 71
Sales of property, Ord. 2,531		6,733 13		.....	.....	6,733 13
Hospital Fees		686 75		.....	.....	686 75
Ohio and Mississippi Railroad Company, to pay interest		.....		9,000 00	9,000 00	.....
Chesnut Street Sewer		9,357 64		5.658 03	.....	3,699 61
Olive " "		550 00		7,256 85	6,706 85	.....
		$559,452 15		$615,570 21	$84,090 39	$27,972 33
Sales of Bonds		294,660 73		498,898 12	27,972 33	.....
Receipts in Treasury		$854,112 88		$1,114,468 33	$56,118 06	

The receipts into the Treasury for the fiscal year 1852, exclusive of the sales of Bonds, exceeded those of 1851 $56,118 06. The principal increase of revenue being in the items of licences, water works, wharf, &c., but mainly from general taxes, notwithstanding a harbor tax of but 1-29 instead of 1-10 of one per cent was levied, and but little derived as yet from the city stores, in block 7.

		For 1851.		For 1852.
The total receipts into the Treasury, exclusive of loans, was		$559,452 15		$615,570 21
Deduct therefrom special objects, viz:				
For New Limits, one half its revenue	$70,668 50		$79,518 10	
For Wharf Fund	47,064 35		55,506 69	
For Harbor Tax	31,720 77		17,670 42	
For Special Tax Fund	6,652 62		6,400 91	
For School Fund, 1-10 commons revenue	161 03		344 99	
For Chesnut street sewer fund	9,357 64		5,658 03	
For Olive street sewer fund	550 00		7,256 85	
For interest from Ohio and Mississippi Company			9,000 00	
		166,174 92		181,355 99

The revenue proper was, for 1851 $393,277 24 For 1852 $434,214 22 Surplus $40,936 98

The net revenue of the fiscal year 1851, after deducting special objects, and appropriated as per Charter, Act 3, Sec. 1, and Act. 7, Sec. 21, to expenditures of 1852, was $393,277 24

That of the fiscal year, 1852, to be appropriated to expenditures of the present is 434,214 22

The surplus is 40,936 98

LITERARY DEPARTMENT.

Valley of the Ohio.

ITS CONQUEST AND SETTLEMENT BY AMERICANS.

BY MANN BUTLER, ESQ.,
Author of the "History of the Commonwealth of Kentucky."

The title of the Iroquois to the western country, whether north or south of the Ohio river, which was much dwelt on by the British government, and even by Doctor Franklin, with the colonial writers generally,* seems to be doubtful, at the times familiar to our countrymen, whatever it may have been in more ancient times. Upon any claim of recent dominion or conquest on the part of the Iroquois over the region in question, the title of these tribes may well be pronounced devoid of all force, against the rights of the numerous and war-like tribes of the Northwest and South. These tribes never, within historical knowledge, admitted any claims of the Six Nations to the Valley of the Ohio. They confederated with the Senecas of those nations in the common war against the British, and subsequently against our own countrymen, upon a footing of thorough unquestioned equality, they occupied the northern side of the valley of the Ohio, and they hunted or marched in war parties through the country on its southern side, without a question of right, or any controversy beyond the local feuds of border barbarians with one another. If the Six Nations had exercised the supremacy over the northwestern tribes, which they sternly did over the Delawares of Pennsylvania, in favor of that province, to enforce the "walking purchase," as it was called,† there would have been evidence of it, in the long transactions which for nearly three quarters of a century took place between them and the English together with our own countrymen.

In consequence of the instructions from the British ministry to Governor Dinwiddie of Virginia, previously mentioned, two companies, of a hundred men each, were raised by the province, and placed under the command of Washington as Major; they had orders to finish, in the best manner they possibly could, the fort, which was expected to have "been already begun by the Ohio company, on the present site of Pittsburg. A Captain Trent had command of one of the Virginia companies; and he dispatched Ensign Ward with forty-one men, to execute the order of the British government, and of Virginia.

This movement on the part of the colony immediately produced an attack upon the unfinished fort, and a summons to surrender from M. Contrecoeur, in the French service, at the head of "up-

* Franklin's Writings, vol. 4. Ohio Settlement.

† History of Conspiracy of Pontiac, p. 77.

wards of one thousand men, who came from Venango,* with eighteen pieces of cannon, sixty batteaux and three hundred canoes."†

To this overwhelming force submission seemed inevitable, and the officer, after capitulating, "marched up the Monongahela, to the mouth of Redstone creek."

This hostile step made by subordinates, in the remote frontiers of two European States, then by treaty at profound peace, was succeeded by vigorous preparations, on the part of Virginia, for hostilities. It was too much like the rash steps taken by a late President of the United States in our difficulties with Mexico, which might possibly have been adjusted, without the dread alternative of war. Very different was the policy of President Jefferson, in our controversy with Spain about the boundaries of Louisiana, in 1806. Then the military commanders of both countries could agree upon a neutral line, afterward sanctioned by their respective governments, by which war with Spain was avoided. Indeed notwithstanding our numerous tedious and exciting controversies with that power, the United States have succeeded in avoiding open hostilities from the birth of our Republic to the present time. Long may such pacific relations continue under mutually forbearing counsels, on the part of both countries; and if Louisiana and Florida did not provoke a war between them; it is to be hoped by the friends of liberty and peace, that Cuba will not be permitted to involve us in the dread calamities of war. They can never be too highly estimated in the scales of social justice and humanity; unless in the alternative of slavery and dishonor, or war with all its perils.

A regiment was now raised, and confided to the command of Joshua Fry, as Colonel, and George Washington as Lieuten. Col. At the head of this regiment, (for Colonel Fry had not taken the field) Washington marched into the neighborhood of the Monongahela. It was here nearly north of the subsequent site of Fort Necessity, that a French party of observation, under the command of M. Jumonville was surprised by a detachment from the Virginia regiment, and the French commander *killed in open battle;* not assassinated, as strangely represented by the French officers, and still more so, by French historians.‡

This slight affair of posts would be every way unworthy of notice, were it not for the erroneous representations of French historians, and the exalted reputation to which, by the assent of civilized world, the American commander subsequently arose. These unfavorable and unjust criticisms have been comparatively unknown to our countrymen, reposing in their own enthusiastic admiration for their great patriot chief. They thought, the world

* Mouth of French Creek, the old Riviere aux Boeuf, or Beef River, as it is translated upon the map attached to the account of Bouquet's Expedition.

† Sparks II, 7, 447.

‡ Sparks, vol. II, 7, 447.

had entirely agreed with them in this sentiment, as they knew they did to an extent which confers imperishable honor on his name. These depreciating remarks have been fully discussed by the accomplished and devoted editor of the Washington Writings, and the falsity of this obsolete calumny established forever.*

Shortly after this encounter of the 28th of May, 1754, Washington was informed by his Indian scouts of the advance of a French party of greatly superior numbers; a retreat was therefore made to the Great Meadows.†

At this point the fatigue of his men from dragging the swivels over the mountainous roads, and the exhaustion of much of their provisions (for they had been without bread for eight days), compelled Washington to halt and to fortify. A small fort was erected out of the adjacent timber, with the readiness and expertness with the axe, characteristic of the American backwoodsmen. It was well denominated Fort Necessity ("from the circumstance of its erection and original use.") In this hasty fort or stockade, Washington was soon surrounded by a superior body of French, under the command of M. Contrecoeur, and after a defence of nine hours, surrendered with the honors of war. The French flag now waved over the western country, from Detroit to Fort Chartres. Yet the Indian proprietors of this vast region were treated with indifference or contempt flagrantly unjust to their rights.

The two great belligerents rapidly prepared to carry on a war in these remote western wilds yet undeclared to the world.

In June, 1755, General Braddock, at the head of an army of more than 2,000 effective men, of whom about 1,000 belonged to the king, and the remainder furnished by the colonies:‡ a force unexampled in the forests of America, marched from Fort Cumberland (now the town of Cumberland in Maryland), for the capture of the French fort Duquesne, and the recovery what was deemed British territory. So harassing were the obstacles to the march through the unbroken and mountainous wilderness, that on the 8th of July, 1755, a body of twelve hundred men, with light baggage, proceeded on as advance; leaving Col. Dunbar to bring forward the rear division. This overwhelming force proceeded uninterrupted on their march, and in most imposing order. The difficulties of transportation and delay were almost invincible to the British troops, so little used at that day to the embarassments of a new country, and to a theatre of action, at once both mountains and wilderness. It took the army nearly five months to get from Alexandria, on the Potomac, to within ten miles of Fort Duquesne; the troops landed on the 20th of February; but they did not begin their march till the 20th of April, 1755.

* Sparks, vol. II, 7, 447.

† West of the Youghiogany, near a fort at Laurel Hill, and a spot known as Braddock's Grove.

‡ Sparks, II, 469.

On approaching the Monongahela river, the army was compelled by the abrupt nature of the ground, to cross a little below the junction of the Youghiogany, to the southern bank of the former stream. This was early in the morning of the 9th of July, 1755; all things were at length in readiness, and the troops "all in full uniform, the soldiers arranged in columns, and marched in exact order, the sun gleamed on their burnished arms, the river flowed tranquilly on the left. Officers and men were equally inspired with cheering hopes and confident anticipations." Well might Washington say, as he afterward did, in addition to these remarks, that the most beautiful spectacle he had ever beheld, was the British troops on that eventful morning. About noon the army crossed again to the northern bank of the river, and came upon a level plain elevated but a few feet above the surface of the river, and extending northward about half a mile from its margin—there commenced a gradual ascent, at an angle of about three degrees, which terminated in hills of a considerable height, at no great distance beyond. The road to Fort Duquesne led over this plain and up this ascent. By the order of march a body of three hundred men, under Col. Gage, composed the advanced party, which was followed by another of two hundred; next came the General with the columns of artillery, the main body of the army, and the baggage. In the meantime, while the British army are left crossing the Monongahela in this beautiful order, it becomes necessary to notice the movements of the French, to resist so overwhelming a force.*

From his unequalled scouts both French and Indian, M. Contrecoeur, the French commandant of Fort Duquesne, received constant intelligence of the British force, and its daily marches. By these Braddock's army was represented as amounting to three thousand men. From a force so superior, the French commandant was preparing to retreat, "when M. de Beaujeu, a captain in the French service, proposed to head a detachment of French and Indians, and meet the enemy in their march."† The Indians were then applied to for their co-operation; they refused, on account of the superiority of the enemy. But at the earnest solicitation of Beaujeu, they agreed to assemble in council upon the proposition; the Indians again refused. This disappointment only excited anew the ardent spirit of this true son of France, and he addressed them in these words: "I am determined to go out and meet the enemy. What! Will you suffer your father to go out alone? I am sure we

* This information, thanks to the ardent labors of the editor of the Washington Writings, has been first laid before the American public, as obtained from the archives of the War Department, or Bureau de Guerre, at Paris. In this repository of the military deeds of France, the above indefatigable writer found three brief accounts, one of which appeared to be written on the spot from which the above narrative is condensed. Spark's Wash., vol. II, App.

† Idem, II.

shall conquer." This ardor of the French officer overcame the wily caution of the natives of the forests; on this third expostulation they agreed to accompany him.

The 7th and 8th of the month were passed in making preparations for the attack, and reconnoitering the ground over which the enemy, now within sixteen miles of the fort, must pass. Two other captains, Dumas and Liguery, with some inferiors, now joined Beaujeu, at the head of about six hundred Indians. This is the medium, at least, of the different French accounts, so different from the conjectures of the English, and even of the sagacious Washington and Franklin. The former stated,* that there were no more than three hundred, and the latter, at most, not exceeding four hundred. The average force under M. Beaujeu amounted to about eight hundred and fifty or eight hundred and sixty-seven: while their opponents, in the advanced division, were about twelve hundred.

But there was a much more fearful difference between the two armies than numbers; it was skill in the commanders; the one fettered the spirit by which he was surrounded, the other allowed it full play; the one adapted his movements to the ground and the country in which he actually was, the other governed himself by tactics suited to quite different scenes,—to the low countries of Europe, where Braddock had principally seen service.†

To understand this disastrous action, it is essential to know the nature of the ground. This is most perspicuously described‡ as a hill, which commencing about half a mile from the river, descended in the gentlest manner; along each side of this inclined plain, a ravine extended, eight or ten feet deep, (even in 1830) and then covered with long grass and timber. Here, between these two places of natural ambuscade, capable of concealing at least ten thousand men, the British troops advanced with the most unsuspecting or presumptuous confidence. In vain the experienced Croghan,‖ who had for many years been the deputy Indian agent for the Six Nations, attended with a body of friendly natives; they were treated with so much neglect, that they all deserted, one after another. Washington, who was much consulted by the General, but whose advice was not regarded, importuned him in vain, to employ these Indians as scouts along the route of the army. Orders from superiors were equally lost upon this misguided officer, as advice from inferiors. The Duke of Cumberland, distinguished in history as once intended for the monarch of the British colo-

* Sparks, II, 87. Bancroft, IV, 187.

† Smallet X, 127, 128. Sparks II, 67.

‡ Sparks II, App.

‖ Col. George Croghan, the experienced Indian agent of the British government, and Deputy under Sir William Johnson; not Colonel William Croghan, of Kentucky, and the father of the gallant defender of Fort Stephenson, in more recent times.

nies,* had, in his instructions to General Braddock†, carefully cautioned him "to beware of an ambush or surprise." In this situation of the ground, the British were crossing the river just below where the French and Indians posted themselves, and were waiting till Braddock's advanced guard came up the ascent. It had been the intention to meet the British at the ford of the river; and then after *annoying* them as much as possible, to retreat to the ravines, on the sides of the road, a spot which had been selected the previous evening.‡ This had been prevented by delay; and the French plan was now limited to a surprise from their ambuscade. The attack by the allied troops was commenced upon the British advance as it reached the rising grounds passing between two ravines occupied by the French and Indians. "It was repelled by so heavy a fire, that the Indians thought it proceeded from artillery, and they began to waver. At this moment, M. Beaujeu was killed, and the command devolving on M. Dumas, he showed great presence of mind in rallying the Indians. He ordered his officers to lead them to the wings, and attack the enemy in flank, while he, with the French troops, would maintain the position in front." These orders were well seconded; and though the battle raged with great fierceness for a time, the random direction of the British fire against the unerring aim of an enemy, only discernable "by the smoke of their guns," made little impression. The Indians fired from the edge of the ravines, where the greatest part of them fought, and their horrid yells, with which the woods resounded, struck terror into the hearts of the British soldiers. The general moved "speedily to the relief of the advance, but before he could reach the spot, which they occupied, they gave way, and fell back upon the artillery, and the other columns of the army causing extreme confusion, and striking the whole mass with such a panic, that no order could be restored. The general and the officers behaved with the utmost courage, and used every effort to rally the men, and bring them to order; in vain. In this state, they continued nearly three hours, huddling together, in confused bodies, shooting down their own officers and men, and doing no perceptible harm to the enemy. The Virginia provincials were the only troops that seemed to retain their senses; and they fought with a bravery and resolution, worthy of a better fate. They adopted the Indian mode, and fought, each man for himself, behind a tree. This was prohibited by the general, who endeavored to form his men into platoons and columns, as if they had been manoeuvering on the plains of Flanders. Meantime the French and Indians, concealed in the ravines, and behind trees, kept up a deadly and unerring discharge of musketry, singling out their objects, taking

* Bancroft, IV, 232.
† Smollett, X, 128.
‡ Bancroft, IV, 188.

deliberate aim, and producing a carnage unparalleled in the annals of modern warfare. More than half the army that had moved in so proud an array, only three hours before, were either killed or wounded." "The general had five horses shot under him, and at last received a wound through his right arm into his lungs, of which he died on the 13th of July." The same officer represents* the men as "so extremely deef to the exhortation of the general and the officers that they fired away, in the most irregular manner, all their ammunition, and then ran off, leaving to the enemy the artillery, ammunition and baggage; nor could they be persuaded to stop till they got as far as Gist's plantation; and there only in part, many of them proceeding as far as Colonel Dunbar's party, which lay six miles on this side (*i. e.* farther east). The officers were actually sacrificed by their good behavior, advancing sometimes in bodies, sometimes separately; hoping by such an example to encourage the soldiers." Col. Washington had two horses shot under him, and his clothes shot through in several places, behaving the whole time with the greatest courage and resolution.‡ "I expected every moment to see him fall," says Dr. Craik, his faithful surgeon unto death. Nothing but the superintending care of Providence could have saved him.‖ "Some potent Manitou," exclaimed an Indian chief, who had singled him out with his rifle, and bade his warriors to do the same, "protects his life."§ "Death," wrote Washington,¶ "was levelling my companions on every side of me; but by the all-powerful dispensations of Providence, I have been protected."

The loss in this battle was tremendous: "ten captains were killed, and five wounded; the whole number of officers in the engagement was eighty-six, of whom twenty-six were killed, and thirty-seven wounded. The killed and wounded of the privates, amounted to seven hundred and fourteen, of these, at least, one-half were killed." "The Virginia troops showed," says Colonel Washington, "a good deal of bravery, and were nearly all killed; for I believe, out of three companies that were there, scarcely thirty men are alive. Captain Peyronny, and all his officers down to a corporal, were killed. Captain Polson had nearly as hard a fate, for only one of his was left."° While this destructive slaughter was committed on the British troops by themselves and their enemies, the loss of the French, from an imperfect return, was stated at three officers killed, and four wounded; about thirty soldiers and Indians killed, and as many wounded.

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* Sparks, II, 471, Letter of Col. Orme, an aid of Braddock, to the Governor of Pennsylvania.

‡ Sparks, II, 87.

‖ Marshal's Washington, vol. 1.

§ An Indian chief confirmed this account on meeting Washington upon his visit to the West in 1772.

¶ Sparks, II, App.

° Sparks, II, 87.

The routed troops hastened over the river, and did not intermit their flight, till they reached Dunbar's camp, seven miles from the Great Meadows, and about fifty miles from Fort Cumberland, at Will's creek. At this camp the artillery was destroyed, and the public stores and heavy baggage were burnt, by whose orders was never known," says one officer,* while another represents, that he plead the orders of his dying general.† It is better explained by his own determination to abandon the frontier to the savages, and evacuate Fort Cumberland, and march to Philadelphia for winter quarters, in the month of July.

On the 13th of this month, the troops moved forward on their disgraceful retreat, reflecting greater dishonor upon the British arms, than Braddock's bloody field. General Braddock died the same day after having roused from his lethargy to say, "we shall better know how to deal with them another time."‡ His grave is still pointed out, near the National road, about a mile west of Fort Necessity.

* Sparks, II.

† Bancroft, IV, 191.

‡ Bancroft, IV, 192. Franklin's Life.

Bellefontaine Cemetery.

BY EDWARD STAGG.

Rein up thy steed, and let us enter in
This City of the Dead. What silence here
Where sleep, in all security, pale forms,
Through death's long night! No need of watchman here
To note the hours, and guard the city's peace;
For here "the wicked do from troubling cease,"
The murderer's arm is powerless, the torch
Of the incendiary quenched for aye.
And here is hushed the tongue of slander, here
The mean detractor never more can shoot
His venomous arrows.
Here the good repose
How calmly, sweetly slumb'ring in their beds!
Their trials over, and their cares all ceased,
And no temptations for resistance now.
They gaze, with gladness, on fair Zion's hill,
Where sits Jerusalem the new, and see
Her golden streets, her dazzling jasper walls,
Her gates of pearl; and they behold her King,
Clad in his robes of glory, on his throne.
They hear such music as was never heard
By mortal ears; and the sweet song is e?er
Of Zion's King, who rules in perfect love,
And of the Lamb who for the world was slain.
Resolved, to all who now are sleeping here,
Is the grand mystery of life; for crossed

Is death's dark stream, and from the other side,
They view the Past in its reality
And see its purpose plain. The mists that hung
Upon their way are dissipated now,
And all is clear.

We enter now this gate
Through which so many mourners' feet have pass'd.
Following their loved ones to that narrow house
Where worms hold banquet, and in which the guest
Turns soon to dust. We go at solemn pace.
The ground is hallow'd over which we pass,
And echoes to the footsteps of our steeds,
With hollow sound. Here stands, upon our right,
The keeper's lodge, and antique-looking house.
Amid these graves and sad memorials
Of lives now ended, do its inmates dwell;
Reminded ever, it would seem, of death
And of their own departure from the world;
Thus drawing wholesome teaching from the scene.
It may be so. But, we familiar grow
With solemn teaching and with daily woe,
As with all else; and we may look on death
As—what it is—the inevitable lot
Of all mankind, quite callous to the life
It ushers us upon.

How sweet the scent
Of virgin grass and of the evergreen!
The trees stand beautiful; and flowers wild,
Or planted by the willing hand of love,
Breathe out their fragrance to us as we pass.
The evening breeze comes kissing soft the cheek,
Then hastens on and with the flowers plays,
Or dallies with the grass. Life, life is here
Among these habitations of the dead!
We feel its influence in our veins; our steeds,
With nostrils wide distended, take it in,
And restless paw the turf.

What column here
Of marble white, its base inscriptioned o'er,
With Scripture words? It covers him who late
Did preach the Gospel in its purity;
A servant of the Lord, who, learned, like Paul,
And zealous in the cause he had espoused
Spake forcibly and well; and God did bless
The labors of that man. He's pass'd away
To that blest shore he pointed to so long,
And bade all seek it who could hear his voice.
And there he dwells with Patriarchs, with Kings
Of God's anointing, with the Prophets whom
He loved to turn to when they spoke of Christ;
And with the Apostles, and with Martyrs, from
The faithful Stephen to the latest known.
He talks with John, and comprehends all now
The glorious vision had on Patmos' isle.
He lists the harp of David, and its notes
Delight his soul as he recalls the Psalms
Of Israel's singer. And Isaiah too
Is his companion, whose sweet numbers oft
Refreshed his soul. And, best of all, he looks
On his dear Saviour, gazing in His eye
Of beaming love, while earnestly he lists
The Virgin Mother telling o'er the love
And sufferings of the Lord. Familiar words!
But never felt as now.

We turn to view
That costly monument which stands above
The grave of one, all lovely and belov'd,
Who left a hearth of happiness and gave
An unblown flower, as she pass'd away,
As a memento and a comfort to
Her lone companion. Strange, it seemed to us,
The Reaper ruthlessly should take away
The tree when it was needed to sustain
The tender bud o'er which it leaned in love,
Defending it from storms. Strange that the fount
Should suddenly be dried, whose waters clear
Were parent of the rill.

But, grew the flower
And ope'd its petals to the light of morn,
With fragrance sweet. And still the rill flow'd on,
Sparkling and deep'ning. There was air from Heaven,
And gentle dews, while there the mother slept—
As still she sleeps—beneath the bright green sod,
Her spirit in the garden of the Lord.

In yonder lot, behold that iron chair,
Inviting to a seat; suggesting, that,
They fain would linger who go there to gaze
Upon the graves of sleeping ones belov'd,
And not retire all hurriedly to mix
With thoughtless ones, and straight forget the dead;
As many do, and lose an influence good.

Pause we now here. Beneath this mound there lies
An humble follower of Christ and poor.
What though no marble standeth here to stop
The passer by, and tell him, that, beneath,
A good man rests; rehearsing all his deeds
Of charity and love. They all are writ
In God's great book, indelibly inscribed
On that same page whereon the deeds of those
Whose praise was ever on the lips of men,
Are noted down. Perhaps unknown to few,
Those noiseless deeds, and most forgotten now;
But known to God, and in His memory
Forever fresh.

In Abraham's bosom, where
The soul of Laz'rus finds so sweet repose,
The tenant of this mouldering form beneath
Our careless feet, has now eternal rest.

Behold, how many little graves are here!
Dear flowers lie in them, from the tender bud
With petals yet unopen'd, to the more
Expanded flower, harder still to lose.
What countless tears and bitter ones were shed
For these dear treasures! and what aching hearts
Have been for them! In yonder "fields of light"
They bloom in spring perennial, and there
The Saviour's smile reflecting, while they grow,
Throughout Eternity, more beautiful.
"Ere sin could blight or sorrow fade," they pass'd,
Like holy thoughts, to more congenial skies.

And here is made one little grave I love.
'Tis Ferdy's grave, a dear and hallow'd spot.
O! not long since, some happy angels came,
And played for him sweet music, while they breath'd
The air of Heaven on his beauteous face;
Till, all enraptured, he went up with them!
He pass'd away as quietly and sweet,
As fragrance from the rose.

And here shall I,
Within this small enclosure, make my bed,
Or soon, or later; but, at most, ere long.
Here, in this corner—or, perchance, in that—
Shall the grave-digger turn the turf to make
A "house" for me; and on this very spot
Will some feet stand, and drop a parting tear
O'er this poor body. Should it be my lot,
To tarry here until the last is gone
Of those who make my small domestic ring,
Then will no wife's, nor children's heart be made
To ache for me, and I shall close my eyes
Upon the world without a sigh, except
That deep-drawn one my numerous sins shall force.
But, half-way now upon life's rugged road
My feet do stand. And few there are who reach
Full seventy years, the limit God has set
To man's few days. The accidents of life—
So called by us—and protean disease,
Insidious and dread, uncertain make
The future time.

How sweetly do they chirp,
Those birds hard by us! And the distant bells
Of kine returning homeward, sound enough
To make the stillness of this silent spot
Seem more profound.

But, lo! the sun has set.
And see! the moon is hanging o'er our heads.
Her silvery beams will soon present to us,
In all the majesty of darkness seen,
These graves and monuments! O, fitting time
For serious thought and self-communion sweet!
Here, all about us, lie once beating hearts,
Still, still and cold. Late, some of them did leap
With love's delightful ecstacy, and some
Swell'd with ambition, some, with hope deferr'd,
Beat heavily and ofttimes, sicken'd, sank.
And those lie here that beat in unison
With bright, glad nature—they are children's hearts.
And here lie hearts corroding cares did pain
And wear away; and hearts that sorrow'd too
Are lying here.

All, all shall slumber on,
With many more that shall be gather'd here—
Of old, of young, of matrons and of maids,
And those who've walked these avennes, the "tour"
Have ridden over, many, many times—
Till that great Morning when the trumpet's peal
Shall wake the Dead! Then shall these beauteous grounds
Burst quick asunder, and shall then release
Their prisoner-tenants, who shall rise to meet
Their Judge and Maker in the stilly air.

Then, o'er the gateway of this City write
These words: *I know that my Redeemer lives,*
And though the worm this body shall destroy,
Yet in my flesh shall I behold my God!

VIRGIL.

From the French of Voltaire.

Conclusion.

With regard to the construction of the fable, Virgil is blamed by some critics, and praised by others for having imitated Homer. I, for one, if I may be so bold as to hazard an opinion, am inclined to think that he is neither obnoxious to the reproaches of the former, nor entitled to the praises of the latter. He could not help introducing the Gods of Homer, which were also his Gods, and which, according to tradition, had guided Aeneas into Italy; but assuredly he makes them act with more judgment than the Greek poet.

Like him, he speaks of the siege of Troy; but I venture to say that there is more art, that there are more touching beauties in the description which Virgil gives of the taking of that city, than in all the Iliad. It is contended that the episode of Dido is modelled upon that of Circe and of Calypso; and that Aeneas descends into the infernal regions but in imitation of Ulysses. The reader, by comparing these pretended copies with the supposed original, will find a vast difference.

It is further urged that *Homer has made Virgil;* if this be true, then, without doubt, it is his most beautiful work. It cannot be denied that Virgil has borrowed from the Greek some comparisons and descriptions, in which he is ordinarily beneath the original. When Virgil is great, he is himself; if he sometimes fails, it is when he condescends to follow in the wake of another. I have frequently heard Virgil reproached of sterility of invention. He has been compared to those painters who are ignorant of the art of varying their figures. Our admiration is awakened at the profusion of characters which the immortal Greek has thrown into his Iliad; whereas in the Aeneid the strong Cloanthus, the brave Gigas, and the faithful Achates are insipid personages—Aeneas' domestic servants, and nothing more, whose names serve but to fill up some verses.

This remark seems to me to be just; yet I venture to say, that it turns to the advantage of our author. He sings the actions of Aeneas: Homer the idleness of Achilles. The Greek poet was compelled to supply the absence of his principal hero, and, as his talent was to execute paintings, rather than to carry out with art the plot of an interesting fable, he followed the impulse of his genius in representing characters with an unparalleled force, yet without choice. Virgil, on the contrary, felt that he ought not to weaken his principal character, and lose him in the crowd. It is to Aeneas alone that he wished to have us attached, as it was to him alone he ought to have attached us. Hence we should never lose sight of him. The pursuit of any other method would have spoiled his poem.

Saint-Evremont declares that Aeneas is better calculated to be the founder of an order of monks than of an empire. It is true, that Aeneas is considered by some rather in the light of a devotee than that of a warrior. It is evident that the prejudice of these persons proceeds from the false idea which they entertain of his courage. Their eyes are dazzled by the fierceness and the fury of Achilles, or by the gigantic exploits of heroes of romance. Had Virgil been less wise, had he, instead of representing the calm courage of a prudent chief, depicted the rash temerity of Ajax and of Diomede combatting against the gods, he would doubtless have been better relished by these critics, but would have been probably less deserving of the praises of sensible men.

I now come to the great and universal objection which is made to the Aeneid. The last six books, it is said, are unworthy of the first six. My admiration for this great genius does not close my eyers to this defect. I am persuaded that he felt it himself, and that it was the true reason why he had entertained the design of burning his Aeneid. He had been willing to recite to Augustus but the first, second, fourth, and sixth book, which are in effect the most beautiful part of the work. It is not given to men to be perfect. Virgil has exhausted all that the imagination has of grandeur in the descent of Aeneas into the infernal regions. He has said all to the heart in the loves of Dido. Terror and compassion have reached their utmost bounds in the description of the ruin of Troy: from that high elevation to which in the midst of his flight he had soared, he could not but descend. The project of the marriage of Aeneas with one Lavinia whom he has never seen, cannot interest us after the amours of Dido. The war against the Latins, commenced on occasion of a wounded stag, is calculated to cool the imagination already heated by the description of the ruin of Troy. Elevation is impracticable when the subject is low.

We must not, however, believe that the last six books of the Aeneid are without their corresponding beauties. There is not one in which the work is not traceable to Virgil. That, which the force of his art has drawn from this ungrateful soil, is almost incredible: everywhere is seen the hand of a wise man struggling against difficulties. All that the brilliant imagination of Homer had scattered with a profusion without rule, is disposed of with choice by our author. For one, if I may be allowed to say, what wounds me the most in the last six books of the Aeneid, it is that we are tempted, in reading them, to take part with Turnus against Aeneas. I see in the person of Turnus a young prince passionately in love and on the very eve of marrying a princess who has no repugnance of him. Besides this young prince is favored in his passion by the mother of Lavinia, who loves him as her own son. The Latins and Rutulians equally desire this union which promises assurance to the public tranquility, the happiness of Turnus, that of Amata, and even that of Lavinia herself. In the very

midst of these tender hopes, upon the very threshold of so many public and domestic felicities:—Lo! a stranger, a fugitive, arrives from the coasts of Africa, and sends an embassy to the Latin king, to obtain an asylum! The good old king commences by offering him his daughter whom Aeneas did not ask of him. Hence follows a cruel war; yet does it not commence but by hazard and by a common and trivial adventure. Turnus, whilst combatting for his mistress, is unmercifully slain by Aeneas. Thereupon the mother of Lavinia, driven to dispair, takes away her own life, and during all this tumult, the feeble Latin king knows not whether to accept or refuse Turnus for his son-in-law. He neither carries on the war, nor concludes a peace, but safely immured within the walls of his palace, leaves Turnus and Aeneas to combat for his daughter, certain of having a son-in-law, whatever might be the result of the contest. It strikes me, that it would have been easy to have remedied this great defect. It should have been the part of Aeneas to have delivered Lavinia from the hands of a cruel enemy, rather than to have waged war against a young and amiable lover; a lover whose claims to her were so many and so just. It should have been the part of Aeneas to have succored old king Latinus, rather than to have ravaged his country with fire and sword. Aeneas has too much the appearance of the ravisher of Lavinia. I should have preferred to have seen him her avenger. I would wish that he should have had a rival whom I could hate, in order that I might feel more interested in the hero. Such a disposition would have afforded a source of new beauties. The father and mother, and even Lavinia herself, would have had more suitable characters to represent. But my presumption leads me too far. It belongs not to a young painter to dare reprimand the faults of a Raphael; and I may not exclaim with Coreggio: *Son pittore anche io.*

THE PLAINS,

By FRANCOIS DES MONTAIGNES, of St. Louis.

CHAPTER SEVENTH.

Wherein Francois taketh a roundabout way to prove axioms: viz: that Indians *will* steal, and that travellers and explorers will not be believed.

"Men in Buckram."—FALLSTAFF.

As was fully demonstrated in the foregoing logical chapter, the stratum of atmosphere enveloping this globe of ours, exerts a strange influence over the inhabitants of certain portions thereof; all of which is readily to be accounted for upon the most approved philosophical principles. But by none is this influence so sensibly felt as by those who dwell upon and travel over the high prairies or steppes of America: a region constituting in this respect a marvellous land of enchantment and wonder, replete with ghosts and genii, inferior to none de-

scribed by poet or historian, and the beau ideal for many a future Frederick Damberger and Don Quixote De La Mancha.

The peculiar effect of which we speak, is by no means to be considered applicable only to the copper and clay colored people of this region, Kaws, Kickapoos & Co., but is apparent in the language and customs of all traders, trappers and travellers whose route happens to lie through any portion of this curiously infected district.

Even explorers are not proof against the wonderful effects produced upon the intellectual and physical system, by the exceeding purity and rarity of the mountain and prairie atmosphere. Humboldt, in his famous ascent of Chimborazo, or some other lofty place of the sort, was attacked by a sudden flow of blood to the head; and prairie travellers, as a general thing, are seized with a sudden fit of expansion, similar to that of the frog in the fable, causing them to entertain many outlandish ideas of size and distance, as well as many erroneous and preposterous opinions in other respects, which can only be accounted for on the principle of undue expansion or inflation, a principle comprehensive enough to account for many a queer thing hereafter to be mentioned, being attributed to the same cause.

Francois himself, at sundry times, had his brain to reel, more from the rarity of his situation, however, than that of the atmosphere, and though his tongue and fingers tirgled many a time, with the curious sensation, he philosophically confined his attentions to the care of the latter; now packing a mule, and then making a note, now a dash, and then a somerset; a combination of physical and intellectual effort of such equal proportion, that the reader may safely depend upon the result—these lucubrations, as a fair average sample of the explorers' experience in lofty regions.

We have wondered, whilst a boy, at the marvellous adventures of Baron Munchausen;—we have visited Lilliput and Brobdinag with Gulliver;—dived into the valley of diamonds with Sindbad, the sailor, and traversed Africa from the Cape to Bambarra, through Bushmen and Caffres, wild dogs, lions, tigers and samboes, with that indefatigable explorer Frederick Damberger, and thence to Morocco with Captain Reilly; but Gulliver, Munchausen, Sinbad, Reilly and Damberger, combined in a volume, become mere history, and sink into plain matter of fact, as soon as comparison is instituted between them, and the astonishing narratives furnished us, wholesale and retail, by the vieux voyageurs of our company, and the chance travellers whom it was our good fortune to encounter in this outward bound journey. As an instance of this remarkable feature in travellers, we may as well mention the case of a certain veteran Canadian voyageur attached to the expedition with his two Indian ponies, his pipe and his sacks full of fixtures and oddities, who amused us by the hour, around the camp fire, with marvellous tales of still more marvellous escapes and adventures, for each of which he could show a wound or a wrinle; never mentioning an Indian unless he were a Blackfoot, and never having followed any other pursuit since his birth, but trapping for beaver. There was not a stream, flowing into the Columbia, Colorado, Missouri or Mississippi, upon which the old gentlemen had not set his traps for beaver, and been chased by the Blackfeet. Towards the termination of our trip, when approaching the western line of the

Texan Cross Timbers, by way of the Canadian river, this veteran of the mountains recognized several favorite spots, where he must have trapped very successfully, about the year 1800, and been pursued by war parties of Blackfeet. But another friend suggested, that "old Antoine would say he had trapped in the moon, if he thought that there were any beaver or Blackfeet there."

Such is the effect of habits; whilst young and innocent, we know not what falsehood means; but gradually, as years roll on, and we grow up, we daily think less of prevarication, until a lie hangs as loosely on our tongues, as the beaver and Blackfeet did upon that of the ancient voyageur.

This old Sinbad of the mountains was not the only one, by any means, whose escapades from lance and tomahawk, and unprecedented success in the fur trade, kept us continually on the *qui vive*, vibrating as it were, like Mahomed's coffin, between heaven and earth, for various travellers, in squads of one, two or three, inward bound, regaled us with many a pleasant little item of intelligence, respecting sundry immense droves and hordes of Indians ahead, awaiting our approach, episodes as it were, duly interspersed among the eternal beaver and Blackfeet; thereby stirring us up, (to use a provincialism,) as though we were *tole*, requiring an occasional hand-full of sugar or molasses to preserve us from spoiling. These rascals seemed to enjoy themselves considerably in retailing their Indians to us by the thousand, greenhorns as we were; and at each additional thousand our poor ears would stand up still more erect, and eyes become as prominent as so many hat-pegs. They informed us, with an emphasis and gusto, worthy of a better cause, that the entire south side of the Arkansas, from the Big Bend to Pawnee Fork, was lined with Comanches, Apaches, &c., and had we been Colonel Fitzpatrick prepared for a grand treaty with every nation within the jurisdiction of the United States, we could not have looked forward with anticipations of a more complete congregation, than was already assembled at the Big Bend of the Arkansas. But explorers, as we were, green and blue at that, *one thousand* Comanches awaiting our approach, looked squally; *five thousand* was positively critical, and *ten thousand* amounted to an immediate loss of scalp.

These *ten thousand*, piously inclined friends of ours, had been encamped with their herds, their squaws and their papooses for several weeks, confidently and daily expecting our advent among them, to pounce upon us like grasshoppers, and devour us at once as though we were sardines, sent by the government for the especial consumption of the big war-chiefs, the little war-chiefs and the chiefs in general of the Comanche nation and its confrères.

Our eccentric reporters even carried the joke so far as to inform us, that their own escape from this horde of cannibals was owing solely to their lean and impoverished condition, having travelled far without much to eat; but that we, being in comparatively good order, had no resource, but to be served up at a dog-feast among the first fortunate lodges whom we should encounter. The idea of such a sacrifice was anything but pleasant, and all the hideous rites of the Cannibals, witnessed and described by Robinson Crusoe, on the island Juan Fernandez, recurred to us with a vivid freshness actually startling; we

would have felt if our scalp were still upon our head, had not our hair felt like bristles, and when our friends resumed their route, we bade them Adieu, as though we were a doomed set, a condemned squad. In addition to these gentlemen of the road, we met a frontier Indian and his helpmate, journeying he did know whither; and on Cow Creek—several Kickapoos with a drove of good looking horses, *obtained* at some place they could not recollect were, but *destined* for the border. The Kickapoos, though partly civilized, are as roving a people in disposition, as their neighbours, the wild Indians, and though it may savor of too much suspicion, to accuse the party on Cow Creek of having obtained their fine lot of stock by unfair means, it will not injure them any more in the estimation of the public, to mind up this digression, by saying as a general thing, that

INDIANS WILL STEAL.

THE DRAMA.

The Drama reflects the spirit of the times. The piece of dramatic art which excels in the brilliancy of its reflexions of the spirit of the times is sure to be popular. The popular dramatic writer, and the popular dramatic performer, have each extraordinary responsibilities. Intellectual traits, moral feelings, and legal actions are directed by their genius. The stage is a judgment seat of public opinion. It determines the common sense of the common mind.

Shakspeare makes Hamlet express the *passive* "purpose of playing, whose end, both at first and now, was, and is, to hold, as 'twere the mirror up to nature; to show virtue her own feature, scorn her own image, and the very age and body of the time his form and pressure;" but hoping it may not be considered as an effort to "gild refined gold" we will add there is an *active* purpose of playing. That *active* purpose is the formation of the *Taste* of a community.

> "What then is taste? but the internal powers,
> Active and strong and feelingly alive
> To each fine impulse, a discerning sense
> Of decent and sublime, with quick disgust,
> From things deformed, or disarranged, or gross
> In species."

Man has a relish for fine art. Fine art cultivates good taste—refines common sense, and elevates humanity. We are pleased to observe that the representations of the legitimate drama at the People's Theater has an active tendency to establish good taste.

THE

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ARTICLE I.

The Public Press.

The machinery employed in carrying on governments, both ancient and modern, presents one of the most interesting and instructive topics of political and civil history.

In despotic governments the principles and art of operating the political machinery, are mysteries concealed from the people who are regarded merely as implements to be used in carrying out the designs of the rulers.

Religion and physical force, terror of gods and fear of men, have, with few exceptions, constituted the static and motive power of all human governments. It is humiliating and painful to contemplate the thralldom to which mankind have been subjected by the combined powers of superstition and the sword wielded by vicious and degraded men, unmindful of human suffering, and ambitious only for the attainment of selfish ends.

Fortunate for the cause of humanity, our ancestors, after a long and sanguinary struggle, succeeded in establishing a new type of governments on this continent. Here, a new system of political and social dynamics, with appropriate machinery, was devised and adopted, the ancient order was inverted, and political power, instead of flowing from the center, and ending in acts of oppression, was placed in the hands of the people, substituting accountable agents in place of the monarch, the ballot-box for the throne and scepter, public opinion and the press for a political priesthood and the sword.

It was natural that the rulers of the old world should regard this new order as a chimera. They denied that men were capable

of self-government, and deriding the simple and apparently frail machinery of our system, confidently predicted its failure.

In truth, the adoption of the American system was a bold experiment, but, based upon comprehensive and just conceptions of man's social nature, it only requires a reasonable degree of intelligence and virtue, on the part of the people, to make it perpetual. The principle being just, it can scarcely fail from any other cause than a misapplication or unskillful use of the machinery—the public press and ballot box. But the suffrages of the people being controlled, in a great degree, by the press that, therefore, is to be regarded as the most important element in the operations of our political and social institutions. It gives tone to public opinion, direction to the policy of the government, and, like Shakspeare's conception of the drama, is calculated "to hold, as it were, the mirror up to nature; to show virtue her own feature, scorn her own image, and the very age and body of the time, his form and pressure." It is well to inquire whether the American press performs these offices with fidelity. Do its conductors diligently study the true nature of our social and political institutions, and, unbiased by prejudice, aim to enlighten the public mind in respect to all subjects relating to the common welfare of the country? Do they present virtue in its true light without detraction, and vice in its own image without defence? And, is the "form and pressure" of "the very age and body of the time" reflected from their columns without distortion? As truthful historians we are compelled to say that none of these inquiries can be answered in the affirmative. There are doubtless individual exceptions, but we are speaking of the press as an institution, and every day furnishes instances in proof of what we here affirm.

Is a public measure to be discussed, the press is divided between two or more parties, each denying the facts and conclusions of the other; and, adroitly resorting to false assumptions and sophistry, aim to confuse and mislead the public mind. We have admitted, in connection with another subject, that their must be at least two parties in all free governments,* but it does not follow that either must necessarily be wrong, both may aim to promote the best interests of the country, and yet honestly differ in their views and opinions respecting the course to be pursued in attaining an end desired alike by all.

* Vide Volume I, page 409.

False assumptions and disingenious arguments are expedients applied to the exigencies of the time, and always, in the end, weaken the cause of those who resort to them. A victory gained upon false issues, must sooner or later result in the defeat of the winning party, and conductors of the press who, departing from truth, prostitute their vocation to gain a temporary triumph, bring disgrace upon the cause which they advocate, and evils upon the country. It is not a sufficient excuse that they are urged on and sustained in their course by the indiscretion of their patrons; it is their duty to rebuke such indiscretions, and prevent, as far as they can, all acts of injustice to their opponents.

Are the acts of public men called in question, the press opposed to the party to which they belong, is ready to charge them with official corruption upon the slightest grounds, and labors to fix upon the party all the odium of the crimes imputed to the individuals of which it is composed. Nor are the private and public virtues of prominent individuals belonging to one party admitted by the press of the other, without, at least, some degree of detraction, so long as they continue to act a conspicuous part in the affairs of the country. And so far from reflecting the form and pressure of the times, it would be utterly impossssible to write a history of the United States giving a correct view of the operations of our political and social institutions, the character of our statesmen, and moral condition of the people, from facts contained in the public newspapers. Nor can the character of the American people be correctly understood and appreciated by our cotemporaries of other countries, from that source. This is a state of things to be deprecated by all who cherish a just regard for the institutions and social condition of their country. It is a fruitful source of inquietude to individuals, it cherishes political and social prejudices, checks and weakens social and national sympathies, detracts from the influence of our institutions upon the condition of other nations, and greatly retards our own progress in the march of civilization. Surely, the cause of so many evils should not be overlooked by an intelligent people, nor allowed to remain if its removal be practicable.

Few, we believe, will dissent from the view we have taken of this subject, or deny the existence of the evils which we have attempted to portray; yet from the nature of the case, there is little

hope of a speedy reformation, though the remedy be obvious and practicable.

But notwithstanding our censures, it would be unjust to lay all the blame upon the conductors of the press: they live by their vocation, and each aims to supply the public with the kind of matter most in demand. Few possess the means or moral courage to assume and maintain the attitude of reformers; and those who attempt to pursue an independent course are generally treated with indifference and neglect by all parties.

The power of reforming the abuses of the press is in the hands of the people. Let them elevate their moral standard, and refine their taste, and falsehood and scurrility will be banished from the columns of the newspapers; let them cultivate their minds, and acquire a taste for useful knowledge, and the silly story without a moral, and the stale and pointless anecdote will give place to more instructive matter.

Our people boast of the number of their newspapers, and delight in comparing the quantity to that produced in other countries: would they not have much better cause of self-gratulation, did the quality of the matter bear a similar comparison? Then, indeed, we might claim the first rank among the nations of the earth, and the philosophy of our institutions would be studied abroad, and their principles so far reduced to practice as to improve the condition of every other people.

Though the power be in the hands of the people, we believe the conductors of the press may do much to improve its character, without incurring any material loss of patronage: the observance of a few rules, to which all might safely subscribe, would place it upon a footing that would command universal respect: publish nothing that may not be publicly mentioned or discussed with propriety by every reader, whether male or female; in discussing party questions, always recognize and conform to the courtesies observed by gentlemen in their personal intercourse with each other; in advocating or defending any cause whatever, never give a false coloring to facts nor resort to arguments which a man possessing a reasonable degree of self-respect would not urge before the most intelligent audience. Other rules might be added; but were the spirit of these strictly observed, it would redeem the public press from the imputation of injustice, falsehood and scur-

rility, and call into service a class of men whose learning, talents and taste would dignify and adorn the editorial corps.

The observance of these rules would save the conductors of the press from many vexations which arise from the illiberal and unkind conduct of individuals belonging to their own profession, which would more than compensate any loss of patronage incurred by the reformation. And, finally, it would lead to habits of industry, and save them from the temptation of appropriating the labors of others without making the proper acknowledgments—an innocent indiscretion, which might pass unnoticed were it not calculated to mislead the historian, and cause him to transmit to posterity the labors of one individual under the name of another. Accidents of this kind frequently occur from an oversight of the editor, or perhaps, from the want of attention on the part of those intrusted with his business; and inasmuch as the interests of the public are little affected by such mistakes, it is the duty of the corps to deal kindly with each other in such matters. No charge of improper conduct should be made until an opportunity for an explanation or apology shall have been afforded.

Personally, we always feel flattered by the re-publication of our productions in the columns of our cotemporaries, and though sometimes they appear without the customary acknowledgements, we are nevertheless gratified that they were esteemed worthy of being reprinted.

We have sometimes been amused in making the discovery that publishers, most tenacious of the rules of editorial propriety, have themselves been guilty of omissions similar to those which they condemn in others. We give an instance in the COTTON PLANT, an able advocate of southern interests, published simultaneously at Washington and Baltimore. In the issue from that press of February 10th, 1853, we found an article entitled "The United States: the Southeast and Northwest," copied from the Western Journal & Civilian, without credit or comment. We were pleased, however, to find our views published in a paper so respectable, and at a point where we most desired they should be read. We felt no disposition to complain, and took no notice of what we regarded as an accidental omission. But we have since discovered that the conductors of the "Cotton Plant" are very keen-sighted in detecting similar omissions on the part of others. In their issue

of 14th April, 1853, we find the following complaint against two of the leading periodicals of the day:

"THE GREAT MONTHLIES.—We have been struck, often, with the wholesale manner in which monthlies—especially the most influential, appropriate the thoughts and labor of daily and other papers, merely changing the language here and there. Sometimes whole articles are taken word for word without the slightest credit. As an illustration we will cite the instance of HUNT, who gave out as original a most beautiful thing, entitled the "Statesman and the Merchant." Now that sketch originally appeared in a comparatively obscure paper, in Bath, Maine. We cut it out at the time as a "gem." What was our astonishment to see one day, in a Boston daily paper this same "sketch," giving HUNT the credit. The Boston daily spoke of it as bringing up "great men before our eyes in colors of living light"—"life-like and true," &c. We waited for Hunt to come out, and say that "he was obliged," &c. "but that the exquisite essay was not his," or something of the kind. No such correction was made. Having given a "point blank case" in regard to the great gun of the North, we will give one of the great gun of the South—DEBOW'S REVIEW. There appeared originally in a paper published in Brandon, Mississippi, (the "Republican" we think) an article entitled, "what kind of a factory will fifteen thousand dollars build—and what will it pay?" Our readers will recollect that we copied it, giving proper credit to our Mississippi friend. Afterwards the identical article re-appeared in "DeBow's Review," letter for letter, without remark or comment. It was re-copied extensively all over the country as original with the Review. No declaimer was made by the distinguished Editor.

Now to say that these works are not aware of such things is no excuse. Hunt and DeBow are decidedly the most reliable and valuable works of the day—and we hereby recommend them, but they will neither lose any of their dignity or usefulness by giving the proper credit, for those valuable statistics and essays, which as the literary and statistical Reviews of the nation, they are expected to gather up. But no work, however well established or powerful, should appropriate as original the labor and intellect of others, without proper acknowledgment."

After reading the foregoing extract, we were compelled to conclude that the Editors of the Cotton Plant were not aware of the fact that they had copied an article from the Western Journal & Civilian without making the proper acknowledgment, and we feel assured that they will cheerfully rectify the mistake as soon as it is brought to their knowledge. It is not to be presumed that gentlemen who are so watchful over the rights of others, will fail to correct a mistake or inadvertance of their own.

In connection with this subject, justice to the Senior Editor of the Western Journal & Civilian seems to require the notice of an-

other instance where his labors, by some accident, have been separated from his name, and reproduced as the property of another.

Some years ago, he wrote an article on "Domestic Manufactures in the South and West," which was published in DeBow's Review, in connection with the writer's name; but the same matter now appears in "DeBow's Industrial Resources, &c., of the Southern and Western States," recently published in three volumes, without comment, or notice of the author. A mistake in such a case as this is more remarkable, than if it were to happen in the hurry which usually attends the preparation of matter for a periodical. And though we do not charge the compiler of the Industrial Resources &c. with a deliberate intent to suppress the author's name, we must conclude that his memory of those who have labored for his work is, in some degree, defective. The article referred to filled twenty-eight pages in the Review, and will be found at page 107, in the second volume of the Industrial Resources &c., for which, as we are advised, the copy-right has been secured. It is true that Mr. DeBow does not directly declare himself to be the author of this particular article, but, at the beginning of the second volume, he publishes the names of fourteen individuals as the authors of certain articles contained in that volume, leaving the public to conclude, as a necessary consequence, that the balance of the matter was written by himself. Thus, as the matter stands, the article has not only been separated from the name of the author, but, by virtue of the copy-right, he is deprived of the privilege of publishing it among his own works.

We beg to apologize to our patrons for this digression, touching our own affairs: they know with how much zeal we have labored to promote their interests, and must perceive that our usefulness in their service depends, in a great degree, upon the estimation in which our labors are held by those residing beyond the limits of our own State. If what we write should pass unnoticed, or be republished without our names, we can exert little influence in their behalf abroad. Hence we should be unfaithful to them, and unjust to ourselves, did we tacitely allow others to appropriate our labor, and enjoy its fruits.

ARTICLE II.

History of the Fisheries of Plymouth Colony.

PREPARED FOR THE TREASURY DEPARTMENT OF THE UNITED STATES, BY LORENZO SABINE, OF MASSACHUSETTS, AND SUBMITTED BY THE HON. THOMAS CORWIN, SECRETARY OF THE TREASURY, AS A PART OF HIS ANNUAL REPORT ON THE FINANCES, AT THE 2D SESSION OF THE 32D CONGRESS.

After long and patient inquiry, I am convinced that the *whole* truth as to the motives which induced the Pilgrims to remove from Holland to America has not been told by our historians.

The sweet poetess asks, "What sought they thus afar?" and herself replies, not "the wealth of seas," but "a faith's pure shrine." She has expressed the sentiments of all. But is it so certain that they "sought" not both? Of the men of their time, were they *alone* exempt from the influence of the fishing mania which prevailed throughout maritime Europe? Weary, stricken, homeless exiles, could they have lived unmoved by the spirit around them, when the Dutch fisheries* were at the highest point of prosperity, and when every one's thoughts in their own country were turned to the planting of fishing colonies at Newfoundland and on the shores of New England? Our continent was discovered in 1497, by Cabot; and from the moment that the chronicler of his voyage made known to the people of England that our waters teemed with fish—that here "were great seals, and those which we commonly call salmons; and also soles above a yard in length, but especially there is a great abundance of that kind which the savages call *baccalos* or codfish"—down to the year 1620, as we have seen in the first and second parts of this report, the intercourse of the French and English with the northerly seas of America was constant; and of all this were not the Puritans as well informed as others? Were they ignorant of what transpired in the New World

* It is said, by writers of authority, that in the year 1560 the Dutch employed one thousand vessels in their herring fishery; that the number in 1610 was fifteen hundred: and that, at the time the Pilgrims embarked for America, it was quite two thousand. These estimates are extravagant enough, surely. What shall be thought of Sir Walter Raleigh, who set the value of this fishery annually at £10,000,000, (or nearly fifty millions of dollars;) or of De Witt, who said that every fifth person in Holland earned his subsistence by it? Yet such statements were believed at the time, and their truth is contended for now.

Nor was this the only fishing excitement of the Pilgrims' day. In 1612, the Dutch sent whale-ships to the Greenland seas, but the British considered them interlopers, and compelled them to retire. The year after, French, Dutch, and Spanish ships at Spitzbergen were forbidden to fish, by the same "lords of the seas." British whalers, as is stated, went armed at this period. In 1613, the British Russia Company received a monopoly of the whale fishery, and the year following a company in Holland obtained the same exclusive right. In 1618, the controversy between the British and Dutch, on the subject of the fisheries, terminated in a general war.

in the ten years immediately preceding their flight from England, and during the ten years of their residence in Holland? While among the Dutch they were neglected, if not unkindly treated, and became poor and unhappy. Many places to which to emigrate were mentioned, and the advantages and disadvantages of each were amply discussed. As soon as the decision of the little flock was made, some were dissatisfied and withdrew. The question arises, why did they decide to come to America?

I have no space to argue a question which involves so many inquiries, but cannot forbear to state, in a few words, some of the principal incidents which attended their coming to their "wilderness home." Omitting to notice the accounts of Amidas and Barlow, who explored the southern coast of the United States in 1584, under the auspices of Sir Walter Raleigh, and what is said of Sir Richard Grenville's expedition to the same region the year following, as well as the various other enterprises which, in several particulars, are pertinent to the subject, we come at once to the voyage of Gosnold, in the year 1602. He was the first Englishman who sailed directly across the ocean, and the first who attempted to make a settlement within the limits of New England. The story of his adventures was written by two of his associates, Archer and Brereton, and published in London* immediately after his return. Of Brereton little seems to be known; but Gosnold and Archer were subsequently prominent among the early settlers of Virginia, and between the latter and the celebrated Smith there was a long and a desperate quarrel. From Brereton's narrative, as well as from the tracts appended thereto, it appears that Raleigh was the patron, perhaps the original mover, of the enterprise. As containing the earliest information of Massachusetts printed in England, these papers are of great value. The attention of merchants, of fishermen, and of those interested in colonization, hitherto, and for nearly a century, directed exclusively to Newfoundland, was now to be diverted, in some measure, to New England. The results will appear as we progress.

Arrived at our coast, Gosnold anchored near land which he called "Shoal Hope;" but, catching a "great store of codfish," he changed the name to Cape Cod.† While there, says Archer, "we saw sculls of herring, mackerel, and other small fish, in great abundance." Brereton, whose account is more exact and definite, remarks with much earnestness upon most matters connected with our inquiries. "Surely, I am persuaded," he observes, "that, in the months of March, April, and May, *there is upon this coast better fishing, and in as great plenty, as in Newfoundland;*

* Republished in Collections of Massachusetts Historical Society, vol. 8th of 3d series.

† Prince Charles changed the name to "Cape James," in honor of his father; but Gosnold's appellation has been preserved to the present time.

for the sculls of mackerel, herrings, cod, and other fish, that we daily saw as we went and came from the shore, were wonderful; and, besides, the places where we took these cods (and might in a few days have laden our ship) were but seven fathoms water, and within less than a league of the shore, when in Newfoundland they fish in forty or fifty fathoms water, and far off."

To pass the observations which were recorded as they continued their explorations, we find in the tracts appended to Brereton the prediction that "*forasmuch as merchants are diligent inquisitors after gains, they will soon remove their trade from Newfoundland*" *to New England*, where there is a better climate, greater security against the depredations of pirates, and less expense for outfits, shorter voyages, and safer harbors. The writer, anticipating that a colony would soon be founded, predicted further, that the ships of *all* the nations that "have been accustomed to repair unto the Newfoundland for the commodity of fish and oils alone, will henceforth forsake" that island, "when once we have planted people in these parts; by whose industry shall be provided, for all commerce," the products of the sea, "and many commodities besides, of good importance and value." Eighteen years elapsed; the Pilgrims anchored off the same "Shoal Hope," and settled in this very country.

Pring followed Gosnold, and explored the waters of Maine, in 1603. He saw and named the Fox islands, in Penobscot bay, and found good mooring and fishing. Like Gosnold, he considered the fish which he took there superior to those of Newfoundland. He made a second voyage three years later; and Gorges remarks that his discovery of the eastern part of New England was perfect, and his account of it accurate.

Waymouth, under the patronage of several English noblemen, and other persons of rank, came in 1605. "A True Relation" of his adventures was written by James Rosier, "a gentleman employed in the voyage," and printed in London in the same year. He agrees with those who had preceded him in every essential particular. As they departed for England, they caught very large fish; and he says that those on board of the ship, who were familiar with the business, "would warrant, (by the help of God,) in a short voyage, *with a few good fishers, to make a more profitable return from hence than from Newfoundland; the fish being so much greater, better fed, and abundance with train*," *&c.**

Two years after Waymouth's return, Lord John Popham, chief justice of England, George Popham, his brother, Sir Ferdinando Gorges, Sir John Gilbert, his brother Raleigh Gilbert, (who were nephews of Sir Walter Raleigh, and, I suppose, sons of Sir Humphrey Gilbert, the original patentee of Newfoundland,) with other

* With larger *livers*—of course affording more oil.

gentlemen of consideration, determined to plant a colony in Maine, and near the fishing grounds which, in the judgment of Pring and Rosier, promised so great rewards to adventurers. George Popham was appointed the president, and Raleigh Gilbert admiral of the expedition. The original design was to settle in the immediate vicinity of the island of Monhegan, in Penobscot bay; but, abandoning this plan, a small island was selected at the mouth of the Kennebec, where Popham and his associates landed and commenced a settlement. Soon removing, however, to the main land, they built a fort, and erected a storehouse and dwellings. The death of the two Pophams and of Sir John Gilbert, the return of Raleigh Gilbert to England, the loss of the storehouse by fire, and other disappointments, discouraged the colonists, and put an end to the enterprise.

The next voyage that claims our attention is that of Smith,* (so often mentioned as the father of Virginia,) who came to Maine in 1614, caught forty-seven thousand fish within twenty leagues of Monhegan, and explored the coast from Penobscot to Cape Cod. The result of his observations was published in London, in 1616. This work, "writ with his oune hand," was of greater pretensions than the tracts of the associates of Gosnold and Waymouth. He devotes whole pages to the subject of fishing, and argues, as the previous voyagers had done, that the seas of New England were far preferable to those of Newfoundland; and he labors the point, and repeats it even to tediousness. He institutes comparisons between the fishing grounds of the two regions; and all the details respecting the necessary wood, iron, pitch, tar, nets, leads, salt, hooks and lines, and articles of provision, are given with great minuteness. Smith perceives, indeed, that he must excuse himself to his readers, and thus apologises: "But because I speak so much of fishing, if any one take me for such a devout fisher, as I dream of naught else, they mistake me."

In reading the accounts of Archer, Brereton, Rosier and Smith, the thought has often occurred to me that, for some reason or other, the writers owed Newfoundland a sort of spite, and were determined to write that island *down*, and to write their favorite country *up*. Smith, I think, especially strives to accomplish this end. He was a man who left his mark everywhere. He had roved over Europe, and had fought on the side of Austria against the Turks; and he was now fresh from Jamestown, and the preservation of his life by the beautiful Pocahontas still excited the public mind. His romantic adventures, his chivalrous character, and his energy of purpose, gave him commanding influence. He had set his heart on founding a colony in "North Virginia," (as New

* Captain John Smith was born in Lincolnshire, England, in 1579. He was an adventurer in almost every part of the world. His several works on American colonization are of great value. For his services and sufferings in the New World he received no recompense. He died in London, in 1631.

England was called until his voyage in 1614,) and seems to have thought that he could best accomplish his design by dwelling upon the superior advantages of its coasts for fishing. "If Newfoundland," he reasons, "doth yearly freight near eight hundred sail of ships with a *salty, lean, skinney, poor-john, and cor-fish,*" and those who adventure there "can gain, though they draw meat, drink, and clothes," and all the necessary gear and outfits, from "second, third, fourth, or fifth hand, and from so many parts of the world, ere they come together to be used in this voyage;" and if "Holland, Portugale, Spaniard, French, or other, do much better than they," why doubt of success in going to New England, "where there is victual to feed us, wood of all sorts to build boats, ships, or barques, the fish at our doors, pitch, tar, masts, and yards?" "Of *all the four parts of the world that I have yet seen*," he observes, *not inhabited, I should rather live here than anywhere*."

His publications on the subject of New England were numerous. The third, or fourth, was printed in 1620, and treated of the "successe of twenty-six ships" employed in fishing there "within these six yeares;" and the last, published in 1631, (the year of his death,) gave an account of "the yearely proceedings of this country in fishing and planting," from 1614 to 1630.

What conclusions may we fairly draw from these facts? In the second part of this report we have seen that at the very time the Pilgrims embarked, a company chartered by James claimed the sole ownership of the American seas, and that a great excitement existed in England in consequence of this monopoly; and we have here seen that accounts of Gosnold's voyage had been printed eighteen, and of Waymouth's fifteen years. Is it possible to escape the conviction that our fathers knew and acted upon a knowledge of all these things? That they were in possession of Smith's map, and some of his books, we have his own express declaration; while in his last work, published eleven years after their settlement at Plymouth, he speaks of their "*thinking to finde*" matters "*better than he had advised them;*" and he evidently plumes himself upon the idea that he had been an efficient instrument in directing their emigration to the land he had praised so much, and had striven so hard to people. In the chapter headed "New England's yearly trials—The planting new Plimouth—Supprisals prevented—Their wonderful industry and fishing," he discourses about the English ships that had made "exceeding good voyages" on the coast; and adds, seemingly, as the results produced by their success, that "at last, upon these *inducements*, some well-disposed Brounists,* as they are tearmed, with some gentlemen and merchants of Layden and Amsterdam, to save charges, would try their oune conclusions, though with great losse and much miserie,

* One of the names of the Puritans.

till time had taught them to see their oune error; for such humorists will never beleeve well, till they bee beaten with their oune rod." In the next chapters he refers to their prosperous condition, (1624,) and says: "Since they have made a salt worke wherewith they preserve all the fish they take, and have iraughted this yeare a ship of an hundred and four score tun, living so well, they desire nothing but more company; and whatever they take, returne commodities to the value." The declarations of this distinguished pioneer of civilization in this hemisphere are entitled to respect, and in almost any other case would be considered as conclusive.

But there is other evidence. Weston, an English merchant engaged in the fisheries, who soon after the settlement of Plymouth attempted to found a rival colony at Weymouth, and who came in person to New England to correct the irregularities of his fishermen, had much influence in directing the affairs of the Pilgrims, and in selecting the place to which they should remove from Holland. He made them an advance in money, engaged to provide vessels for their voyage, and advised them to come to that part of America with which he kept up an intercourse, "as for other reasons, *so chiefly for the hope of present profit to be made by fishing.*" And, besides, we know that they entered into a sort of copartnership indenture with merchants, who, like Weston, made them advances, and agreed to allow these merchants a share of the fruits of their industry. This indenture provides in terms for the prosecution of the fisheries and the employment of fishermen; and the *Speedwell*—that crazy, leaky vessel—was bought for the purpose of complying with this stipulation.*

Still further. And to settle the question, we may refer to "A brief Narrative of the *true* grounds and causes of the first planting of New England," by Edward Winslow, one of the most distinguished of their number, and who succeeded Bradford as their governor. No original copy of this tract is supposed to be in America; but a few years since the Rev. Mr. Kidder, of Charlestown, found one in a printed volume in the British museum, copied it for the Rev. Dr. Young, who has placed it in his "Chronicles of the Pilgrims."

Winslow, in this narrative, speaks of an interview between King James and the agents of the Puritans who went over to England from Leyden in 1618 to solicit his consent to their going to Amer-

* The partners of the Pilgrims in England were merchants. They made a conditional sale of their interest in the property at Plymouth in October, 1626, which was completed in 1627. The contract was between Isaac Allerton, agent of the Plymouth settlers, and forty-two persons, who style themselves "adventurers to New Plymouth, in New England, in America." Governor Bradford, in commenting upon the terms of the bargain, says that "we were bound thereby to forfeit thirty shillings a week for every week that we failed of due payment" at the times specified. The purchase money was £1,800 sterling, in instalments of £200 annually, "on the feast day of St. Michael."

ica. The monarch asked them, "What profit might arise?" He was answered in a single word—"Fishing." Whereupon James replied: "So God have my soul, 'tis an honest trade; 'twas the Apostle's own calling."*

Can anything be more conclusive?

Having arrived in the country which they had sacrificed so much to reach, (though north of the place of their destination on leaving Holland,) what did the Pilgrims do?

The records of their sojourn at Cape Cod—the "Shoal Hope" of Gosnold—show that they were not only anxious to settle on the coast, but on such particular parts of it as would afford them the surest rewards for searching the seas.†

Nothing in our history is more certain than this; but I have not room to go into the evidence. Their good pastor, Robinson, who was the soul of the undertaking, never joined them; but his sons did; and as one of them settled at Cape Ann, and another fixed

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* The "Mysteries, Moralities, Farces, and Sotties" of the Roman church could not have been unknown to King James. Some account of them is preserved in the "Curiosities of Literatvre."

"It appears," says D'Israeli, "that the Pilgrims introduced these devout spectacles. Those who returned from the Holy Land, or other consecrated places, composed canticles of their travels, and amused their religious fancies by interweaving scenes, of which Christ, the Apostles, and other objects of devotion, served as the themes." He remarks further, that "these spectacles served as the amusement and the instruction of the people. So attractive were these gross exhibitions in the dark ages, that they formed one of the principal ornaments of the reception which was given to princes when they entered towns. When the mysteries were performed at a more improved period, the actors were distinguished characters, and frequently consisted of ecclesiastics of the neighboring villages. who incorporated themselves under the title of *Confreres de la Passion.*"

John Bouchet informs us that he saw one of these mysteries performed at Poitiers in great triumph and splendor, and that most of the ladies and gentlemen of the neighboring countries were present. It was called "The Nativity. Passion, and Resurrection of Christ." Another of the mysteries had for its subject the election of an apostle to supply the place of the traitor Judas. In this, Anne and Caiaphas are introduced. conversing about St. Peter and St. John:

"*Anne.* I remember them once very honest people. They have often brought their fish to my house to sell."

"*Caiaphas.* Is this true?"

"*Anne.* By God it is true: my servants remember them very well. To live more at their ease they left off the business; or perhaps they were in want of customers. Since that time they have followed Jesus, that wicked heretic, who has taught them magic: the fellow understands necromancy, and is the greatest magician alive, as far as Rome itself."

According to Lord Woodhouselee, (late professor of civil history, and Greek and Hebrew antiquities, in the University of Edinburgh,) these mysteries were the first dramatic representations known in Europe. They were acted, he says, in his Universal History, by the monks in their churches. They originated in the 12th century, and continued to be performed in England even to the 16th century. In the reign of Henry the 8th, the Bishop of London prohibited the performance of any plays or interludes in churches or chapels.

† After the Pilgrims had held a solemn consultation respecting their final settlement, a part of them were disposed to select a place which they called Cold Harbor, (between Truro and Wellfleet, Cape Cod;) because, among other things, "*it seemed to offer some advantages both for whale and cod-fishery.*" Others "insisted that they should proceed about twenty leagues further, to a place called Agawam, (now Ipswich,) *a harbor which was known to fishermen who had been on the coast.*"

his abode at Scituate, we may conclude that they designed to follow the "honest trade" of fishing. We may close the discussion with the sentiment that our fisheries should be dear to the American people because of the hallowed names connected with their origin, and should be thought worthy of national protection for this reason alone.

True to their indenture with the English merchants, we are now to find that the Pilgrims embarked at once in the fisheries.

Singular to observe, early in the spring after their arrival an Indian, to their "no small amazement," came boldly in among them, and said: "Welcome, Englishmen," in their own language. His name was Samoset. He was followed in a few days by another, who was called Squanto, or Tisquantum. Both had been acquainted with the English who had fished on the coast, and could even tell the names of the masters and fishermen of the ships. The latter, indeed, had been carried to England by a vessel that fished at Monhegan, and had lived with a London merchant two years. Squanto served them faithfully till the end of his life. He instructed them in the manner of taking fish, of planting corn, and of manuring the ground with alewives; and acted as their guide in their journeys.

In the spring of 1622, the settlers were in a famishing condition. Fortunately a boat from one of Weston's fishing vessels (the Sparrow) came into the harbor, and gave information that thirty English ships were then engaged in making fares at Monhegan. Edward Winslow departed immediately for that island to procure a supply of provisions. The fishermen had no food to spare, and refused to sell, but freely gave suffiient to relieve the pressing wants of their Plymouth brethern; regretting, says Winslow, that their store was small, and that they could not express their love by a more liberal contribution. He returned with all convenient speed. "I found," he remarks, "the state of the colony much weaker than when I left it; for till now we were never without some bread, the want whereof much abated the strength and flesh of some, and swelled others." To answer the charge of negligence in suffering extreme destitution in a country represented to abound with fish and fowl, he adds: "*For though our bay and creeks were full of bass and other fish, yet, for want of fit and strong seines and other netting, they, for the most part, brake through, and carried all away before them. And though the sea were full of cod, yet we had neither tackling nor halsers for our shallops.* And, indeed, had we not been in a place where divers sort of shell-fish are, that may be taken with the hand, we must have perished, unless God had raised some unknown or extraordinary means for our preservation." These are interesting facts, and afford us accurate knowledge of what was passing on the fishing grounds of Maine, as well as allow us to chronicle an instance of praiseworthy humanity on the part of the

fishermen, and explain the causes of the distress for food which prevailed at Plymouth.

While thus destitute, the Charity and the Swan, two other of Weston's ships, entered the harbor, with some fifty or sixty men, who, relates Winslow, "were received into our town with whatsoever courtesy our mean condition would afford."

The calamities of the Pilgrims were not at an end. In 1623, without relief from abroad, they were reduced to a single boat; "and that," writes the quaint Hubbard, "none of the best." Yet "*it was the principal support of their lives*," for "it helped them to improve the net wherewith they took a multitude of bass, which was their livelihood all that year." "Few countries," he continues, "have this advantage. Sometimes fifteen hundred of them have been stopped in a creek, and taken in a tide. But when these failed, they used to repair to the clam banks, digging on the shores of the sea for these fish." Neal's account is similar. It is certain that they possessed but one boat, and one net. Such were their resources to prevent absolute starvation; and as they spread a part of the fish they caught upon their corn lands as manure, they were compelled to watch these fields at night, during seed time, to preserve them from the depredations of wolves.

The only people near them were Weston's fishermen at Weymouth. But in the course of the year, the colony there was abandoned. Some perished of hunger; one exhausted his little strength in crawling to a clam bank, and died upon it. Of the survivors, a part subsisted by stealing from the Indians, and others endeavored to reach Monhegan, thence to embark for England. Weston, hearing of these disasters, and anxious to ascertain the condition of his affairs, came over in one of his own fishing vessels, disguised as a blacksmith. He was shipwrecked, stripped by the Indians, and barely escaped with his life. Strange are the vicissitudes of human condition: he, the English merchant, who, in the day of his prosperity, had been the adviser and patron of the weary and stricken Pilgrims, now presented himself before them at Plymouth, in garments borrowed to cover his nakedness, a broken and ruined man!

The period of extreme need soon passed away. In 1624 they sent a ship to England laden with fish, cured with salt of their own manufacture, and the year following despatched two others with fish and furs; but one, when near the English coast, was captured by the Turks. In 1626 they opened a trade with the fishing vessels at Monhegan, and commenced voyages to different parts of Maine to procure fish and furs; and two years later, we find them selling both corn and the products of the sea to the Dutch on Hudson's river. Meantime, the irregular and licentious course of the English fishermen upon the coast had been stated in terms of earnest complaint by Governor Bradford, in a letter to the council that claimed the country and its fishing grounds. Meantime, too,

West, commissioned by this council to levy a tax upon vessels that were found fishing or trading within the limits of their domains, had appeared at Plymouth to execute his duties; but unable either to collect tribute money, or to obtain a recognition of the rigths of his principals, he had departed the seas, insulted and discomfited.

The Pilgrims may have built their first vessel in 1641. Their circumstances considered, this was an affair of greater moment than the construction of a first-class packet ship at the present time. This barque was of but forty or fifty tons, and the cost was estimated at only £200; yet there were thirteen owners and a building-committee of four. The name has not been preserved. The same year, Mr. John Jenny was allowed certain privileges at Clarke's island, to make salt, which he was to sell to the inhabitants at two shillings the bushel; and "the herring wear was let for three years to three persons, who are to deliver the shares of herrings, and to receive one shilling and sixpence the thousand for their trouble." Still further to promote the manufacture of salt, the use of thirty acres of land, at the island, was granted, in 1642, "to the five partners, for twenty-one years;" and about the same time, leave was given to William Paddy and John Hewes to erect fishing-stages at a place which yet retains the name of "Stage Point."

Previous to 1650 the people of Hull were allowed to seine fish at Cape Cod; but some irregularities having occurred, the Plymouth Court passed an order of interdiction, and limited the fishery there to persons belonging to the towns of Plymouth, Duxbury, and Nauset, under restrictions intended to insure an "orderly course in the management of it."

Subject to continual annoyance and interruption by the fishermen of Massachusetts, the court, in 1668, directed that a communication should be sent to the government of that colony "to request them to take some effectual care for the restraint of this abuse, as much as may be." The property at Plymouth was "rated" the same year. All persons "engaged about fishing" were "valued at twenty pounds estate." This was high; inasmuch as Edward Gray, whose stock in trade was the most valuable, was rated only "six score pound."

In 1670, a valuation was made of the "fish-boats," and four were estimated at twenty-five pounds each. Though called boats —and I suppose without decks—many, probably, were of several tons burden, and could be safely employed at a distance from shore. The fisheries, at this period, were considered as well established, and were steadily and profitably pursued.

Fifty years had now elapsed since the settlement of Plymouth. The country, back from the sea, was yet a wilderness. A generation, born in the colony, had attained manhood. Religious wor-

ship was maintained in all the towns, but there were no public schools. Few of the Mayflower Pilgrims were then alive; and the number of educated persons was small. A proposition had been made, as appears by the proceedings of the court, to provide schoolmasters "to train up children to reading and writing;" but without results. The profits of the mackerel, bass, and herring fisheries at Cape Cod, were now granted to found a FREE SCHOOL, and in 1671, under John Morton as teacher, and Thomas Hinckley as steward of the fund, such a school was opened in the colony. This is a most interesting incident: the Cape which afforded the first shelter to the fathers, supported the first public seminary for the education of the children!

Morton, who was a nephew of the secretary of the colony, proposed merely to teach the youth of *one* town "to read, write, and to cast accounts." But a grammar-school was soon established in Plymouth; and several were actually in operation in other places as early as the year 1680.

The fisheries, I conclude, were considered public property, and were generally leased to individuals for the benefit of the colony, or of particular towns. The subject of "rents" and of "profits" is continually referred to in the records, and orders to grant leases to petitioners, or to protect lessees in the enjoyment of the privileges stipulated in the covenants with them, are of frequent occurrence. An ordinance of the latter description of extreme severity was passed in 1678—the court directing that all fishing vessels not belonging to the colony should be seized for public use by warrant from the governor, or one of his assistants, and that the lessees of the colony fisheries should be entitled to damages, to be paid them out of the proceeds of the vessels seized and confiscated. The people of Massachusetts were alone exempted from the penalties of this extreme measure.

Randolph, the first collector of the customs of Boston, gave a general account of the different New England colonies at this period, and said of "New Plymouth" that the people were principally "farmers, graziers, and fishermen;" that there were "very few merchants, they being supplied with all foreign commodities from Boston;" and that "they have no ships of burden, but only small ketches and barkes, to trade along the coast, and take fish."

The colony of Plymouth was united with Massachusetts by the charter of William and Mary in 1692, and a separate notice of its fisheries accordingly ceases at that date.

John Alden, the last of the Pilgrim band, died only five years previously. He lived in America sixty-seven years; and in every administration during the whole time he participated in public affairs.

To regard his connexion with our subject as merely official, his relations commenced with the first, and terminated only with the

last, of the incidents that I have here recorded. But we know, besides, that his private interest in the "wealth of seas" and in general trade was often extensive.

Sufficient has now been said to show the general course of affairs among our fathers, and to connect the branch of industry under notice with some of the most hallowed names in our annals. Mark Antony,* who was a keen fisher, was told by Cleopatra to "leave fishing to us petty princes of Pharos and Canopus." Leave it, is the sentiment of too many of our countrymen, to "the ignorant, the superstitious, and the improvident:" and a single remark more may not, therefore, be illtimed.

Bradford and Winslow, both of whom were governors, with Alden, Standish, Brewster, Allerton, and Howland, as associates, were not only lessees of fisheries, but of the whole commerce of the colony for a term of years.

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* The Romans, like the Egyptians, carried the art of rearing fish to great perfection, and almost every rich citizen had a fish-pond. At some of their feasts a thousand of the choicest fishes were set upon their tables; and at a supper given to Vitullius by his brother, there was double that number provided for the guests. It was a custom, at one time, to carry the dolphin to their eating-rooms alive, in order to glut their eyes with the changes of its color when dying. They were, perhaps, the most sensual and luxurious people who have ever lived. Their gormandizing habits may be seen from the circumstance of Julius Caesar's having taken a vomit before supping with Cicero, the better to make an enormous meal. When one of the Stoics saw the works of Lucullus on the seacoast—the immense cellars and vaults, fish-ponds and reservoirs, which he had constructed—he called him "Xerxes in a gown." And Cato, the censor, in complaining of his countrymen, said, "It was a hard matter to save Rome from ruin, when a fish was sold for more than an ox." The Roman emperor Elagabulus, according to Gibbon, "would never eat sea-fish except at a great distance from the sea. He then would distribute vast quantities of the rarest sorts, brought at an immense expense, to the peasants of the inland country." Marc Antony is said to have given the house of a Roman citizen to a cook who prepared for him a good supper.

Some of the most eminent warriors and statesmen were extravagantly fond of fishing. Antony was one of these. The remark quoted in the text is to be found in Plutarch, who relates the following story: "He was fishing one day with Cleopatra, and had ill success; which, in the presence of his mistress, he looked upon as a disgrace. He therefore ordered one of his assistants to dive, and put on his hook such as had been taken before. This scheme he put in practice three or four times, and Cleopatra perceived it. She affected, however, to be surprised at his success, expressing her wonder to the people about him; and, the day following, invited them to see fresh proofs of it. When the day following came, the vessel was crowded with people; and as soon as Antony had let down his line, she ordered one of her divers immediately to put a salt-fish on his hook. When Antony found he had caught his fish, he drew up his line; and this, as may be supposed, occasioned no small mirth among the spectators. "Go, General," said Cleopatra, "leave fishing to us petty princes of Pharos and Canopus: your game is cities, kingdoms, and provinces."

Travellers in modern times find the ruins of Roman fish-ponds. At Arigentum is seen an artificial lake, about a quarter of a league in circumference, dug out of solid rock by the Carthagenian captives, and to which water was conveyed from the hills. It was thirty feet deep; and great quantities of fish were kept in it for the public feasts. The fish-ponds of Nero were numerous; and the Coliseum is said to have been erected on the site of one of them. Fishing nets, some of them quite entire, have been found in great numbers in Herculaneum, as well as in Pompeii.

These were all Mayflower Pilgrims, and all signers of the compact at Cape Cod, before the landing, in which the great principle that the "majority shall govern" is recognised. Of Allerton, indeed, we may speak as of a regular dealer in fish and furs, since we find that he owned vessels, conducted a fishery at Marblehead, made voyages to different parts of Maine, established a trading-house far within territory claimed as Acadia, and in Connecticut received products of the sea for sale on a share of the profits. In fine, he was one of the most active and enterprising men of his day, and, though devoted to trade, was employed in arranging the most difficult concerns of the colony both at home and in England. To cross the ocean two centuries ago was a matter of vast moment, but Allerton visited the country of his birth no less than five times in the brief space of four years.

Such, in conclusion, were some of the men who devoted time and talents to a business fit only for "the ignorant, the superstitious, and the improvident."

ARTICLE III.

Education for All—Industrial Universities.

There is no object for which we have labored more zealously than for the improvement of the intellectual and social condition of the industrial classes: not that we desire to promote the interests of one part of the community at the expense of another, but, that the rich and their offspring may enjoy wealth in greater security and comfort, while the poor enjoy the profits and pleasures of knowledge and social refinement. It is a misnomer to call a people civilized, when a large proportion of the operatives are ignorant of the science connected with their pursuits, and of the relations which exist between the various occupations of the community. Hence we, in behalf of the country, thank the learned and talented Editor of the "JOURNAL OF MAN" for the excellent views contained in the following article, and earnestly commend them in connection with the enlightened action of the Illinois Legislature to the favorable consideration of our readers, and more especially to our delegation in Congress. And though not instructed by our Legislature, we trust they will be found co-operating most heartily with the Illinois delegation in urging upon that body the adoption of the measure proposed by our sister state.

Senior Editor.

Education for All.

With all the declamation of modern times upon the subject of practical education, and with all the reformatory movements that have been undertaken, the true conception of practical education seems to have been scarcely entertained until lately. If education is to fit the individual thoroughly for the duties of life, it should be devoted mainly to giving thorough qualifications for that which is to fill the greater portion of his life. The lives of all except the privileged classes, who live by rents, interest, and sinecures, must be mainly occupied in the necessary labor of self support. The inflexible law which imposes upon mankind the necessity of constant exertion, is a law in harmony with the constitution of man, and necessary to its highest development; and obedience to this law is as much a duty as a matter of necessity. It should, therefore, be one of the leading objects of education, to teach us the best mode of exerting our faculties in industrial pursuits. The two great objects which should take the lead of all others in a rational course of education, are

First,—To prepare us for obtaining a comfortable subsistence by a reasonable amount of labor.

Second,—To teach a knowledge of our own constitution, for the preservation of health, and for advancement in moral and intellectual capacity.

These two objects, fashionable education most commonly neglects; yet it is self-evident that they are more important than all the rest that can be accomplished by education. He who knows how to maintain himself and family in comfort and independence by a reasonable amount of exertion, and is also able to preserve in his household vigorous constitutions, active minds, and good moral sentiments, is a well-educated man, whether or not he has any knowledge of the contents of a single book.

In a proper system of education, children would not be trained to a mode of life entirely opposite to their whole future career, thus disqualifying them for practical life, and rendering them often idle and worthless in comparison to those who have not been sent to college. On the contrary, several hours of each day would be occupied in industrial studies, acquiring a knowledge of agriculture and the arts, by personally engaging in the labors of the field and the shop, under the guidance of able instructors. Every youth should thus go through a course of training, which would give him a practical knowledge of the most important branches of industry, enabling him at any time, in his future life, to adopt any such pursuits as circumstances might render necessary. In addition to this general industrial education, he should have the most thorough and elaborate instruction in the species of industry to which he is

expected to devote his future life, giving him not only skill in the performance of its labors, but a familiar knowledge of all its relations to other pursuits—its present defects and probable mode of improvement, and its relations to the great laws of supply and demand, which determine its importance to society and its profit to the laborer. By thus mingling the industrial and literary education, the highest degree of energy of character would be developed, as the diversity of pursuits which it would furnish would give the attraction of variety, and stimulate the energy and enthusiasm of the young. The amount of physical exertion in the open air which would be required would preserve a vigorous condition of health, and the harmonious combination of physical and mental development, would, in time, produce a race of intellectual giants, ready for any laborious exertion or responsibility that circumstances might demand.

The combination of literary and industrial pursuits throughout the course of education, would blend by insensible degrees, with the course of future life: as the constitution became more robust, and industrial occupation more thoroughly understood, the time devoted to industrial pursuits would gradually increase in proportion to the literary hours, until the permanent proportion for life was attained. Eight or ten hours of labor and four or five devoted to intellectual improvement, with the cultivation of the finer sentiments, might constitute the permanent course of life. In a society guided by the highest principles, and enjoying all the advantages and economies of a harmonious coöperative industry, six hours of physical labor, and six of mental development, might probably be considered sufficient for all the wants of life. Under such a system of life, the entire community would present, with forms of robust physical beauty and health, a degree of intelligence and moral elevation, which, at present, is looked upon with admiration on account of its rarity. To such a mode of life, a systematic course of industrial education, would be a natural introduction. If such institutions could be established throughout our country, and made, by the assistance of liberal endowments, self-supporting establishments, where the student should enter for a series of years, living without expense, and remaining until his labor should be sufficiently remunerative to repay the outlay, they would at once emancipate the humbler classes of community from the oppression and debasement to which they are now subjected when seeking to obtain an honest livelihood.

The boy who is thrown upon his own resources in consequence of parental poverty, disease, or death, finds no means of subsistence except by passing through a tedious system of vassalage, under the title of apprenticeship—a condition, in some instances, but little less deplorable than African Slavery, in which his whole nature becomes brutalized by the loss of sympathy and society, by oppressive labor, and by the total absence of education, since even

his industrial education is neglected, and he is left to pick up whatever knowledge of the art he may obtain, by his own ingenuity and application, in the shop where he is set to work. A vassalage of this kind, extending from three to seven, and even to ten years, according to circumstances, has been heretofore the hard fate of industrious and destitute youth.

It is a shame that no sufficient effort has been made for the relief of this unfortunate class. The young and helpless can only submit to the long periods of apprenticeship imposed by their masters; and the laboring classes, instead of combining for the abolition of this form of oppression, seem to have taken a pleasure in adding to the burdens and prolonging the servitude of apprentices, in order to protect their several trades from the influx of competition.

There is no necessity whatever for the continuance of this oppression, since the labor of every lad would be amply sufficient not only to pay the cost of his cheap subsistence, but to pay for the best instruction by which he might speedily acquire a thorough mastery of his art, and become as proficient in three months as most apprentices become in three years. I would rejoice to see industrial colleges established in our cities, where youths might apprentice themselves for a limited period to acquire a mastery of any art or arts which they wish to pursue, where the instruction would be of the most thorough character, and where they would be prepared in a short time to take rank as skillful and thorough workmen. I believe that such an enterprise might be made to pay its founders well, and that apprentices entering for but a single year, might, in the first four, five, or six months, become expert in one or more trades, and through the remainder of the year earn enough to pay a handsome fee for their tuition by working under the direction of their teachers. A class of intelligent boys and girls, for example, possessing a respectable English education, and the maturity of judgment generally found at the age of fourteen or sixteen, might, by *competent instructors*, be made good printers in the course of three months, and might, at the present prices of typographical labor, during the remaining nine months of the year, earn from $150 to $250 each; becoming in that time finished workmen, and having a small surplus over the cost of subsistence and payment for tuition.

There are many trades which exact a tedious apprenticeship, in acquiring which, even a single month of careful instruction would be amply sufficient. With such facilities for acquiring industrial independence, young persons would find it desirable to acquire two, three, or four trades, in order to improve their health by alternation in employment and in order to be able to escape the consequences of an over-stocked market and lack of employment, by changing their pursuits.

One grand industrial university in a city, where all the arts should be taught in a thorough manner, where thousands of youths should be prosecuting their labors, under skillful teachers, would exert an immense influence in withdrawing from idleness and vagrancy many to whom apprenticeships are too repulsive, and filling the ranks of labor with truly intelligent and skillful artists. Such an industrial institution, coöperating with the city free schools and night schools, would do more to abolish pauperism and vagrancy than any other devices I can conceive.

But to introduce such institutions requires a revolution in the aims and ideas of the friends of education. That revolution has commenced! The recent movement for the establishment of People's Colleges in New York, is the precursor of a great and beneficent change. And the response which it has received from Illinois is highly encouraging. The following account of this matter, from the New York *Tribune*, will be cheering to all philanthropists.

[By the way, the *Tribune* frequently contains articles of information in reference to the progress of society, which I feel tempted to quote but for the suspicion that my readers have already seen the article at its source. I hope the time will soon come when it will be entirely unnecessary for the Journal of Man to quote from the New York *Tribune*, in consequence of every reader of the Journal being also a reader of that paper.

It has just been enlarged at an additional expense of $50,000 per annum to its proprietors, and is now the Mammoth Journal o America,—destined to circulate more widely, and exert a more beneficient influence upon society, than any other journal on this continent. Since its enlargement, the *Tribune* is about the cheapest paper in the world, as it is supplied to subscribers at a price which scarcely pays the cost of the blank paper, its profits being derived entirely from advertising; and its readers being thus supplied at a cheaper rate than the same amount of reading matter could possibly be furnished except as a matter of charity. No intelligent person, who wishes to keep pace with the progress of intelligence, and to receive fair, liberal, and correct views of public events in Europe and America, should neglect to take the *Tribune.*]

"Education for the People.

It may now be ten years since a few poor and inconsiderable persons began to 'agitate' in favor of a more practical system of thorough Education, whereby youth without distinction of sex should be trained for eminent usefulness in all the departments of Industry. They demand seminaries in which agriculture, the mechanic arts, the management of machinery, etc., should be taught, based upon a knowledge of chemistry, geology, botany, hydraulics, etc., with a corresponding proficiency in all that pertains to house-

wifery and household manufactures for female pupils. These demands made very little immediate impression on the public mind. They were backed by no great names, and no imposing array of Colonels, Generals, and Honorables was ever presented in the reports of the agitators' meetings. In fact, those meetings, proffering no chances for making personal or party capital, and holding out no prospects of snug berths to be provided for cousins and younger brothers, have always been but thinly attended. The only class feeling a deep interest in them was that one which could least afford the time and expense involved in attendance on distant conventions. And the great majority of the journals have not to this day, evinced a consciousness that any such movement had an existence.

Still, the idea has slowly gained ground wherever a few faithful advocates were found to cherish it, and several small conventions of its friends have been held in this state, looking to the foundation of a 'People's College,' and the project has elicited the marked approval of Gov. Hunt and Gov. Seymour. Two State Conventions have in like manner been held in Illinois,—the last some few weeks ago—and one result of these is the passage by the Legislature of that state of the following joint resolutions:

Resolutions of the General Assembly of the State of Illinois, relative to the establishment of Industrial Universities, and for the encouragement of Practical and General Education among the People.

Unanimously adopted.

Whereas, The spirit and progress of this age and country demand the culture of the highest order of intellectual attainment in theoretic and industrial science.

And Whereas, It is impossible that our commerce and prosperity will continue to increase without calling into requisition all the elements of internal thrift arising from the labors of the farmer, the mechanic, and the manufacturer, by every fostering effort within the reach of the government—*And Whereas*, a system of Industrial Universities, liberally endowed, in each state of the Union, coöperative with each other, and with the Smithsonian Institution at Washington, would develope a more liberal and practical education among the people, tend the more to intellectualize the rising generation, and eminently conduce to the virtue, intelligence and true glory of our common country; therefore be it

Resolved by the House of Representatives, the Senate concurring herein, That our Senators in Congress be instructed, and our Representatives be requested, to use their best exertions to procure the passage of a law of Congress donating to each state in the Union an amount of public lands not less in value than *five hundred thousand dollars*, for the liberal endowment of a system

of Industrial Universities, one in each state in the Union, to coöperate with each other, and with the Smithsonian Institution at Washington, for the more liberal and practical education of the industrial classes and their teachers; a liberal and varied education adapted to the manifold wants of a practical and enterprising people, and a provision for such educational facilities, being in manifest concurrence with the intimations of the popular will, it urgently demands the united efforts of our national strength.

Resolved, That the Governor is hereby authorized to forward a copy of the foregoing resolutions to our Senators and Representatives in Congress, and to the Executive and Legislature of each of our sister states, inviting them to coöperate with us in this meritorious enterprise.

JOHN REYNOLDS,
Speaker of the House of Representatives.

G. KOERNER, *Speaker of the Senate.*

J. M. MATTESON, *Governor.*

Approved Feb. 8, 1853. A true copy: Attest,
ALEXANDER STARNE, *Secretary of State.*

—Here is the principle contended for by the friends of practical education abundantly affirmed, with a plan for its immediate realization. And it is worthy of note that one of the most extensive of the Public Land (or New) States proposes a magnificent donation of Public Lands to *each* of the states, Old as well as New, in furtherance of this idea. Whether that precise form of aid to the project is most judicious and likely to be effective, we will not here consider. Suffice it that the Legislature of Illinois has taken a noble step forward, in a most liberal and patriotic spirit, for which its members will be heartily thanked by thousands throughout the Union. We feel this step has materially hastened the coming of Scientific and Practical Education for all who desire and are willing to work for it. It can not come too soon."

Article IV.

History of the Catawba Grape.—Missouri Wine.

We have frequently noticed the progress of grape growing in Missouri, and have discussed, in several articles, the benefits, pecuniary, social and moral, to be derived from the cultivation of the vine in our State.* And though we may have been too sanguine in some of our views respecting the growth of this branch of ndustry, we still have abundant reason for believing that its commercial value will, in time, be at least equal to any of the agricultural staples of the State.

We are persuaded that it is not extravagant to affirm that South Missouri is capable of producing as much wine as is now made on the entire continent of Europe, and we have the authority of intelligent individuals, well acquainted with wine growing on the Rhine, that in quality ours will compare favorably with the products of that celebrated region.

As evidence of the spirit and confidence of the grape growers of Missouri, the specimens of wine now being forwarded to the World's Fair, at New York, is about equal in number to all the specimens of agricultural products of every kind whatsoever sent from this State. Already specimens have been received at St. Louis from eleven wine growers, and a twelfth has made application, and his specimens will doubtless be received in due time.† Of these, five are from Franklin County, three from Gasconade County, one from St. Charles County, one from Cooper County, and two from St. Louis County.

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* Vide vol. II, page 127, vol. III, page 53; vol. IV, page 123; vol. V, page 130; vol. VI, page 195.

† With a view to the preservation of the facts connected with the history of wine growing in Missouri, we give a list of the names and residences of the individuals who have forwarded wine for exhibition at the World's Fair:

L. Gherling, Franklin County, pure juice of Catawba Grape.
S. L. Busch, " " " " " "
Theodore Welkins, " " " " "
William Gallenkamp, " " " " "
— Dollé, " " " " Isabella "
Jacob Romel, Gasconade " " " Catawba "
Michael Poeschel " " " " " "
Frederick Fricke " " " " " "
J. H. Boller, Cooper " " " " "
Julius Gerhard, St. Charles, " " " "
William Glasgow, Jr., St. Louis County, sparkling Catawba.
A. Lemp, " " " pure juice of Catawba.

Samples of these wines accompanying the specimens intended for exhibition, have been tested by the committee, at St. Louis, for the World's Fair, and other good judges, who pronounce them all creditable to the growers, and some of them very fine.

All, except one, of these specimens were produced from the Catawba grape; and all are of the pure juice, except one sample of sparkling Catawba, manufactured by Wm. Glasgow, Jr., of St. Louis. The sample from Cooper County was pronounced very excellent. We mention this not in disparagement of others, but for the encouragement of the producer, Mr. J. H. Boller, whose name we do not remember to have seen before upon the list of Missouri wine growers.

The preference given to the Catawba grape over all other sorts which have been cultivated in Missouri, induces us to publish the following account of its discovery from the pen of Dr. Mosher, read before the American Wine Growers' Association at Cincinnati, and published in the "Western Horticulturist."

History of the Catawba Grape.—As this fruit promises to become one of great importance in the Ohio valley, it may not be uninteresting to our readers to know something of its origin and history.

My article on the history of the Catawba Grape, published in the first number of the Western Horticultural Review, has elicited a lengthy communication from Col. William Murray, of Catoosa Springs, Walker county, Georgia, a brother of the Murray therein alluded to, which fully corroborates the statements there made by Dr. Beach, and now finally settles the question in regard to the origin of this grape. From this communication of Col. Murray, it appears that his father emigrated from Pennsylvania and settled in the woods on the old Kentucky and Warm Spring trail, as early as 1801. At that time there were no roads in that country. The farm then settled, and afterward called Murraysville, is now about ten miles southeast of Ashville, in Buncombe county, North Carolina, and embraces the forks in the roads, correctly described by Dr. Beach, the locality, as well as the character of the country, it being nearly on the summit level of the Black Ridge, in latitude 35 deg. 30 min., mountainous, thinly timbered, soil poor, with many loose stones and gravel.

At that place, in 1802, Col. Murray says these grapes were found growing in great abundance; also another variety with very long bunches, crowded and of dark purple color, but not so delicious as the first, which grew in more open clusters, were larger, and of a more reddish color. After the trees were cut down which shaded them, he says they were better and grew larger, and have

very much improved by cultivation since, and are at this time considered the best grapes in the country.

In 1803, commissioners met at Murraysville to settle a question of disputed boundary between North Carolina and Georgia. On this occasion these grapes were tested and pronounced good. In 1805, he states that the Friends or Quakers from Newbury district, North Carolina, emigrated to Ohio, and as they passed through this place took these grapes with them. It would be interesting to learn where they settled in Ohio, and whether they ever succeeded in propagating them there.

In 1807, Gen. Davy, a Senator in Congress, then living at Rocky Mount, on the Catawba river, in the bounds of the Catawba nation of Indians, transplanted some of these grapes to his residence, and sometime between the years 1807 and 1816 he took some of them with him to the city of Washington, gave them the name of the Catawba grape, and disseminated them among his friends in Maryland. From this source it is probable they fell into the possession of Mrs. Schell, from whom Maj. Adlum obtained them, and made wine of them in 1822. In 1825, he sent the vines with some of the wine to Mr. Longworth, of Cincinnati.

To Mr. John Adlum, then, of Georgetown, District of Columbia, are we indebted for its discovery and early reputation as a wine grape, and to N. Longworth, Esq., of Cincinnati, for its introduction in the West, and for the impetus given to its cultivation and the fabrication of wine, which bids fair soon to become an important staple of our country, and to supplant many foreign wines in our market.

For pure, dry, and sparkling wines, the Catawba grape is likely to become to the valley of the Ohio what that celebrated grape, which yields the best Hock wines, those of Johannisberg and Steinberg, are to the Rhine, which grape, it is said, was introduced into that country from Orleans, in France, by Charlemagne.

It may seem to be a matter of minor consideration to be thus particular in endeavoring to trace the origin of a particular variety of the vine. But, as thus far it stands without a rival in America in yielding a pure, dry wine, it is a matter of paramount interest and importance to become acquainted with its nature, locality, or habits, especially with a view to understand its nature, habits, and proper cultivation.

From the experience we have had in cultivation, it appears that the soil and situation best adapted to its productive and healthy growth is that which approximates most nearly to its native elements. On the sides and tops of dry stony hills, where the soil is loose and porous, it seems perfectly at home, and is little subject to rot or other diseases; the greater the departure from these, its native elements, the more uncertain its culture and perfection of fruit.

In rich alluvial bottoms, the growth is rank and luxuriant, but the fruit is liable to rot and the vines in a few years to decay and become unproductive; clayey uplands retentive of moisture are equally uncongenial. In choosing a location for a vineyard, therefore, these points are of much importance, and should be well studied. In the organization and allotment of vegetables, it is a well known principle of economy that every species and every individual variety of plants have been placed and adapted by nature to a particular soil and atmospheric condition, and very many will not bear a change with impunity. Scientific cultivators are not so well acquainted with these facts, that, in transplanting, their chief endeavors are to reduce the condition of things as nearly as possible to their primary elements. The vines of Europe, for instance, will not succeed in the climate of America when exposed to the variable changes of our atmosphere; hence our intelligent horticulturists are erecting their crystal vineries to shield them from these changes, and to restore to them artificially a climate more in accordance with that of their native home.

S. MOSHER.

ARTICLE V.

(From the "Farmer and Mechanic.")

Agricultural Meteorology.

There are few sciences, the study of which is more useful to the farmer than that of meteorology. A soil may contain all the atoms required to form a luxuriant crop, yet, if the temperature of the ground or of the air above it be too low, vegetation makes no progress. Again, the earth and atmosphere may have a due degree of warmth and light, as well as abound in all the food of plants in an available form, except water, and the absence of this element will be fatal to the hopes of the husbandman.

Atmospheric air, light, heat, electricity, rain, dew, snow, and frost exert a controlling influence over the growth of all cultivated plants. A knowledge of the natural laws by which these generally invisible and imponderable bodies are governed, so far as researches have revealed them, is alike valuable and interesting. The atmosphere, and the numerous phenomena of which it is the theater, should command more attention in this country than they hitherto have received, if we intend to keep pace with the progress of physical science in Europe. To encourage the study of meteorology in its application to agriculture is the object of this chapter.

The atmosphere is mainly composed of two distinct gases, which are invisible but not imponderable bodies, and everywhere sur-

round the planet like an ocean. It has a mean depth of some forty-five miles. The gases which form the air are called nitrogen and oxygen. According to the accurate analysis of dry, pure air, made by M. M. Dumas and Boussingault, 100 parts consist of 20.8 oxygen and 89.2 nitrogen. These chemists found from 2 to 5 parts of carbonic acid in 10,000 of atmospheric air. Dr. Fresenius has ascertained that the proportion of ammonia in the atmosphere is as 1 to 2,000,000, varying to 1 to 3,000,000. Undoubtedly there are many other volatile and gaseous bodies in the atmosphere, in a state so extremely diluted and diffused as to escape all chemical tests. Sir Robt. Kane found that sulphurated hydrogen will pass through a thin piece of India rubber into the atmosphere, against a pressure equal to 50 times the weight of common air. Gaseous compounds of phosphorus, chlorine, and sulphur are constantly discharged from decaying and vegetable substances into the atmosphere. These gases fall to the earth again in rain water. It is one of the laws peculiar to all gases that the presence of one in any given space does not in the least prevent several others from occupying the vacancies left between storms of gas that seem to repel each other with singular aversion. The facility with which the atmosphere takes up vapor when water evaporates, is familiar to all. This capacity to hold immense quantities of water imbibed from the ocean, lakes, rivers, the foliage of trees, and moist earth, in a volatile condition to be distributed over broad continents, is a wonderful provision of nature. But the filling of the air with water, like a wet sponge, is less remarkable than the contrivance for squeezing the sponge so to speak, and causing the diffused moisture to fall in gentle rains, snows and dews. The drying of the atmosphere, after it is saturated with water, is a phenomenon without which it would never rain; nor could there be any springs, rivers, land plants, or animals on the globe. This precipitation of water is effected by a change of temperature, which change is the result of the revolution of the earth on its axis and of solar heat. Day and night, spring, summer, autumn, and winter, with their ever varying temperature, varying winds and clouds, and constantly changing humidity, are all results of fixed laws, which invite the research of every reasoning mind.

Solar Heat.—It is not intended to take more than a popular view of this subject. At the time of seeding in spring, a single day is sufficient to warm to the depth of four inches a mellow soil, recently plowed. Two days of sun will warm the ground 6 inches, and six days 12 inches. The fall of warm rain on a well-drained, mellow soil greatly hastens the heating of the earth. On the contrary, the falling of a cold rain, or much cold water in the ground, greatly retards the rise of temperature in tilled land. Heat and water should be studied together, if one would obtain a clear idea to their joint influence on vegetation. When water evaporates,

it expands to 1,696 times its former volume, and renders latent or insensible a considerable amount of latent heat. Hence, a wet piece of ground, from the surface of which a good deal of water evaporates. is always cooled by the constant loss of sensible heat which rises in vapor and departs far into the atmosphere.

The warmer the atmosphere the greater is its capacity to hold water in the condition of a diffused invisible vapor. The lower strata of air are heated much more by caloric radiated from the earth than by the absorption of heat from the sun to the planet. Air thus heated becomes expanded or rarified and specifically lighter than the cold air above it. This causes the air within and near the tropics to rise high above the surface of the earth, and flow over both north and south, towards either pole ; while colder and heavier air rushes in toward the equator to fill the empty space. These ærial currents are deflected in their courses by the diurnal revolution of the earth, and by mountain ranges where summits are often covered with eternal snow ; and they are still further modified by the varying temperature of the ocean, and its peculiar streams.

The laws which restrain the precipitation of water from clouds are no less curious than those which cause it to rain at all. The atmosphere must approach saturation before it can rain ; and it usually happens that the quantities which will fall on a given area, 100 feet above the ground, and on the earth are unequal. Large drops, in falling through many feet of dry air, become smaller by constant evaporation, and may be wholly dissipated before they reach the earth. On the other hand, quite small drops formed in cold regions, high in the air, constantly condense more vapor in falling through a saturated atmosphere, and will be many times larger when they reach the gronnd than at their starting point.

To illustrate the production of rain, let us suppose that a current of air at 70 deg. of temperature, saturated with moisture, meets and mingles with another current, also saturated, but having a heat of 50 deg. Now, if the atmosphere at the mean temperature of 60 deg. had a capacity to hold water as an invisible vapor, equal to the mean of 70 deg. and 50 deg., it is obvious that no precipitation would take place. But such is not the fact. The quantity of water held in air heated from 60 to 70 deg. cannot be contained in that heated from 50 to 60 degrees. In other words, whatever cools air saturated with moisture, causes a cloud, dew, mist, or rain.

Early and late frosts are produced by the radiation of heat during clear nights from the foliage of plants and other terrestial bodies. If the temperature of the air is not very low at sundown, and it is humid, vegetation will soon reach the dew point so that the latent heat, evolved by the formation of much dew, will prevent a frost. If the atmosphere is dry, clear and still, the dew point is lower, and all the circumstances are favorable to

freeze the little vapor condensed on such substances as radiate heat with the greatest facility. Anything which checks the radiation of heat, like a cloud, smoke screen or wind which agitates the atmosphere, serve to prevent frost. Every farmer should have a thermometer and rain gauge and know the degree of heat most favorable to all his crops. The due temperature and moisture of the soil are as much elements of production and profit, as good manure and skillful tillage. The writer has studied the growth of corn in different months, noting the changes from 4 o'clock A. M. to M., from noon to 8 P. M., and from 8 P. M. to 4 A. M. When the temperature is favorable, corn grows as much per hour in the night as in the day time. No agriculturist is so far advanced in the science of climateology as to make all that can be made of the water, solar light, and heat, which nature so beautyfully supplies. There is no State in the Union where the mean temperature of summer is too low to ripen maize or corn, as is the case in England, Scotland and Ireland. The cutting down of too much timber in some parts of the country has operated to change, in some degree, the climate, and render large districts more subject to alternate droughts and rainy seasons. In summer, when frequent and moderate rains are greatly needed, the air is too dry to yield much more than respectable dews, for many weeks in succession.

To learn the well authenticated results of cleaning forests, in drying up natural springs, and changing climates, regularity of rains, &c., the reader is referred to the writings of Humboldt, Kaentz, Forbes, Boussingault, and other meteorologists. Humboldt remarks: "In felling trees which cover the crowns and slopes of mountains, men in all climates, seem to be bringing on future generations two calamities at once—a want of fuel and a scarcity of water." (Humboldt, vol. v, page 173.) The waste of valuable timber in the United States, to say nothing of firewood, will hardly begin to be appreciated until our population reaches fifty millions. Then the folly and shortsightedness of this age will meet with a degree of censure and reproach not pleasant to contemplate.

Different plants require unlike degrees of heat and light to bring them to maturity. The potato will produce an edible tuber at a mean temperature so low that neither its own seeds nor those of any cereal can be formed. Boussingault found them cultivated in South America at an elevation having a mean heat so low as 49 deg., requiring eleven months in which to grow, or 332 days between the planting and digging. In many parts of this country, persons begin to dig potatoes in 70 days from the planting; and potatoes planted the first of May will be ripe by the first of August. In some of the Southern States they grow best in the winter season. Winter barley and rye will mature their seeds at a lower temperature than wheat. Humboldt found Jakousik, in high

Central Asia, where the earth was constantly frozen at the depth of three feet below the surface, both rye and wheat yielding a return sometimes of 15 to 1 of seed. At that place the mercury is frozen two months in the year—the cold being over 72 deg. below freezing. Short as the summers are, they have a mean temperature of 64 degrees.

On the northern slope of Monte Rosa, in Switzerland, barley ceases to grow at an elevation of 4,260 feet above the sea; on the southern side it continues to be cultivated at the height af about 6,560 feet. Boussingault says that the difference is ascribed to local causes.

In studying the mean temperature and annual fall of rain, including snow and dew, in the United States, and the distribution of both heat and water through the year, one can hardly escape the conviction that no other equal area on the globe has equal agricultural capabilities. Without including Delaware, there are within a fraction of 500,000,000 acres in the Southern States. On two thirds of this vast surface, wheat is harvested early enough in May and June to permit a crop of corn to mature on the same land before autumn frosts. By drawing a line from the Atlantic due west to the Rio Grande, so as to have 300,000,000 acres south of it, on every arable acre two crops of our most valuable breadstuffs can be harvested in a year. Allow one third of this area for forests, the bed of rivers, and irreclaimable surface, and there are left 200,000,000 acres for cultivation. On the supposition that the South had a population adequate to demand such crops, 100,000,000 acres might be drilled with seed wheat in November after corn harvest, putting half the needful fertilizers in with the seed, and sowing the balance broadcast in February or March, after the English and Belgian practice.

With skillful culture and feeding, an average return of twenty bushels may reasonably be expected, producing an aggregate crop of 2,000,000,000 of bushels. This crop would be harvested between the 1st May and 15th June, after which a crop of corn may be grown. With a dense population, as in Belgium, France, and many parts of China, there can never be a real lack of fertilizers, so that 60 bushels of corn can be produced on every acre of arable surface in our thirty States. By this estimate it is seen that the land which had produced 2,000,000,000 bushels of wheat might, so far as the climate is concerned, easily yield 6,000,000,000 bushels of corn in season to seed with wheat again.

Gov. Hammond, of South Carolina, estimates the present capacity of slaveholding States as equal to the support of 200,000,000 of inhabitants. To give Virginia as dense a population as Belgium has (which exports far more of human food than Virginia does) would require all the people now in the United States to reside in the "Ancient Dominion."

Of the other 100,000,000 acres of arable soil, one-half may be planted in cotton and enriched no more than to give an average of a bale of 400 lbs. to the acre. This will secure an annual crop twenty times larger than is now grown in the United States, and fifteen times larger than the consumption of the whole human family. There will still remain 50,000,000 acres adapted to the culture of sugar-cane, rice, tobacco, and other important staples.

The United States possess a territory embracing over 2,000,000,000 of acres, more than a moiety of which is susceptible of tillage. Taken as a whole, the country has a climate whose mean temperature and fall of rain greatly favor the production of human food and clothing.

As we are now engaged in laying the foundations of an empire such as the world has never seen, nor scarcely conceived possible, every advantage of soil, climate, natural product, and such valuable trees for timber, fruit, and fuel as may be profitably cultivated, should command universal care and study.

ARTICLE VI.

The Desmoines Valley.

Rising on a broad high plane, the head of many rivers, in Latitude 44° N. and Longitude 90°, the Desmoines river flows in a south-easterly direction, passing diagonally through the central portion of Iowa, entering the Mississippi a little below Keokuk in Latitude 41°, and Longitude 93. From these astronomical determinations by Mr. Nicholet, and by actual measurements of my own over two hundred miles, I have estimated the whole length of the Desmoines at over 500 miles. It is a bright clear stream of water, varying from 3 to 6 hundred feet in width below Fort Desmoines, running between clean regular sloped banks, and descending with a swift current over a bed of limestone, that falls at an angle of over one and one half feet to the mile. The stream is only navigable in high stages, but it is being improved by a system of slack water improvements, that is designed to secure constant steamboat navigation up to the center of Iowa.

The valley of the Desmoines, which includes an average width of say 30 miles on either side of this river, is so noted for its extent and fertility, that I deem it worthy of the special heading that I have given to this article. Taking the length and fair average breadth as above stated, it will be seen that the whole area is thirty thousand square miles in extent, and contains 19,200,000 acres

of land. It is too vast to present in a descriptive view, either on paper or canvass.

Such is the character of American scenery, especially our western prairies and great rivers: the field of view is too broad and long to come within the compass of the painter or the poet.

The ground rises so gently from the Desmoines river, that in most cases you can easily ascend with a horse, and a carriage could generally be driven up the gentle rolling slopes of the upper portion of the stream. There are no swamps or marshes on the border, but the rising hills in the back ground present a richly colored meadow shaded by scattering groves of trees that cast their dark shadows on the waving grass and flowers that decorate the surface.

But the shores of the River Desmoines are not always skirted round and beautiful banks. Passing up the river from the mouth you find some rocky bluffs, some dark and narrow streams flowing into the main channel, and some gloomy dense and extended forests. At one point a rough mass of rocks rise some two hundred feet above the river, surmounted with old oaks and a few evergreens. This frowning head-land turns back the course of the river, and casts its huge shadow in the water at its base. It is fresh in my memory that rugged isolated mountain scenery, when the hoarse notes and dark wings of a thousand crows add to the gloom that surrounds their annual nesting place in the high cliffs of the rocks of "Raven Cliff."

Passing further up the meandering river we arrive at an angle where the river has underwashed the bluff, leaving an overhanging ledge which rises high above the river the terminating angle of a high table land that here approaches the river. This high point is called "Elk Bluff," and was so named as I was informed on the spot, because the Indians in former times made a large circuit on the great table land, and closed in upon the wild inhabitants of the forest, pressing them upon this giddy height when then the frightened game was precipitated and secured in the river below. While I sketched the general features of the cliff, this narrative drew upon my imagination, and I fancied Indians among the trees in the high back ground, the deer and elk leaping from the projecting rock, dark-eyed Indian maidens in canoes securing the wounded victims, and near by, the smoking fire and Indian wigwam, where the children of the forest awaited in joyful mirth the abundant feast that was preparing before them.

At another point, following up the river, there is seen on the north side a high and towering summit shaded with green, gray, and crimson; the combined effect of the dark foliage, and the singularly colored sandstone that forms the lofty proportions of this remarkable hill. Huge masses of the red rock have fallen from the height, and stand in the deep channel rising twenty or thirty

feet above the water, presenting an obstruction to the passage of the stream, and a fearful obstacle to those who attempt its navigation. "Red Rock," as this entire mass is distinguished, was a point in the Indian boundary that was retained until the last treaty removed the remnant of Black Hawk's tribe beyond the waters of the Missouri. The red mountain was the last stand of the red warriors who saw from its towering picturesque summit the steady approach of the pale-faces, that drives them to new and narrow limits in the far off West. The red sandstone of this point on the Desmoines is more brilliant and beautiful than the Connecticut sandstone so much admired and used in the city of New York: it is more easily quarried and cut, and the day is not distant when it will make a conspicuous ornament to the fronts of St. Louis buildings.

But leaving the immediate vicinity of the Desmoines river, let us ascend to the high grounds that extend many miles on either side, and make up the greater aggregate of territory sometimes denominated the "Desmoines Republic."—Here the broad field of rolling prairie, interspersed with beautiful groves of forest trees, extends in all directions like the great ocean, far as the eye can trace the circle of the horizon. The swelling surface is covered with a grassy mantle spangled with flowers of every form and color; streams of water, sparkling fountains, and glassy lakes, are shaded with the elm, walnut, hickory and oak; all growing broad and beautiful as though they had been planted and cultivated to adorn the majestic landscape. A few small neat tenements, a scattering herd of fat cattle and sheep, a frightened wolf retreating in the distance, the dark brown prairie fowl rising suddenly from her nest and flying swiftly over the field, the shadows of the clouds chasing each other and rising over the distant hills: make all combined the great picture of the *Cotran des prairie.*

This continuous and slightly varying scene extends for hundreds of miles, where the rich pasture is scarcely trod by hoof,

> "Where many a flower is born to blush unseen
> And waste its fragrance on the desert air."

The fertility of the soil is remarkable everywhere. The rich alluvial bottoms on the river, are no richer than the rolling upland prairies. The high grounds are often preferred, and the black mellow earth that is perfectly subdued the second season after the turf is broken with the plough, seems to present the best material that could be used for house-plants or a vegetable garden; and the rich product that follows cultivation, demonstrates its wonderful fertility.

All the grains usually produced in this latitude are grown here with entire success; but corn is the natural staple, for it grows to the greatest perfection with the least labor in all parts of the valley. Bituminous coal abounds throughout the valley, and plaster

of Paris (Gypsum) extends in ledges for miles in length, and from ten to twenty feet in thickness.

The improvement of the river furnishes an inexhaustible supply of water power, and many of the tributaries as well as the main stream are already occupied with superior saw and grist-mills. These agricultural, mineral and manufacturing resources already attract the current of emigration, and the valley is rapidly filling up with an industrious and enterprising population from the Northern and Middle States.

Remote from our great navigable rivers, the present inhabitants are surrounded with many privations, and sigh for the comforts and luxuries that they have left in their former homes, which were less fovored with the natural advantages that are so remarkable in the West. But the day of privation and endurance is rapidly drawing to a close. The eyes of the world are turning towards this valley; twelve railroad lines are progressing through Illinois, approaching and some of them passing the Mississippi, all contending for the first entrance into the commerce of this valley. The N. Missouri Railroad and the Desmoines improvement will soon find means to enter upon the same effort, and in three years the shrill note of the Locomotive will surprise the quiet inhabitants of the center of that valley. The trains will come crowded with emigrants, and towns and cities will then be multiplied with wonderful celerity. In twenty years this valley will contain a million of inhabitants, and they will regard their rural inheritance as the richest domain that can be found on the continent. There will be a mighty change in those twenty years. Enterprise, wealth and power will be introduced, and the strife of man, the embellishments of art, the display of wealth, and the charms of society, will give ample scope for the writers and orators of that day. There will be gay and gorgeous halls, and bright and beautiful maidens; there will be the sound of many voices, the song of birds, and flow of fountains; all these are the coming changes: but casting aside all these embellishments that rise in the future, I cherish the recollection of the native beauty of the silent prairie, the wild forest, the shining river, as they were fresh and fair in the summer of 1849 when my tent was pitched in the valley of the Desmoines.

JOURNAL OF INTERNAL IMPROVEMENTS.

Southern and Western Commercial Convention.

Convention met in the Hall of Exchange Place, Memphis, Tenn., at 10 o'clock, Monday, June 6th, 1853, and was called to order by Maj. James Penn, Chairmann of the Committee of Arrangements, who introduced James H. Otey, Rt. Rev. Bishop of the Protestant Episcopal Church of Tenn., to address the members of the Convention, and the Supreme Being. After prayer, on motion of Gov. Foote, of Miss., Hon. Wm. C. Dawson, of Georgia, was elected, by acclamation, President of the Convention. On motion, Col. J. P. Pryor was elected Secr. pro tem., each delegation present elected a Vice President and Assistant Secretary of the Convention, and a Speaker of its Delegation.

Vice Presidents:

Hon. John Bell, of Tennessee.
Gov. J. A. Quitman, Miss.
Gen. M. Hunt, Texas.
Dr. James P. Scriven, Georgia.
E. M. Browning, S. Carolina.
Hon. Geo. W. Underhill, Ark.
Hon. Hamilton Smith, Indiana.
E. M. Ryland, of Missouri.
Dr. G. Shackleforth, Alabama.
Hon. John Moore, Louisiana.
C. G. Baylor, Dis. of Columbia.
R. Apperson, Kentucky.
Hon. J. M. Botts, Virginia.

Chief Secretary:

Rev. C. K. Marshall, of Mississippi.

Assistant Secretaries:

J. T. Trezevant, Tennessee.
H. Cobb, Missouri.
Chas. Denby, Alabama.
J. B. Leef, Louisiana.
Wm. Watkins, Kentucky.
W. Prescott Smith, Maryland.
J. S. Byrne, Mississippi.
Wm. M. Wheatley, Texas.
R. L. Atkinson, Georgia.
J. F. Fagan, Arkansas.

Chief Marshall:

Col. Charles D. McLean, of Tennessee.

Speakers of Delegations:

James M. Lucas, Missouri.
W. McAlpin, Alabama.
A. Walker, Louisiana.
Robertson Topp, Tennessee.
S. Craig, Arkansas.
N. D. Coleman, Mississippi.
J. L. Steel, Georgia.

Committee on Business:

Messrs.	Steele and Lawson,	of Georgia.
"	Fowler and Mason,	Arkansas.
"	Young and Peacock,	Texas.
"	Vance and Robinson,	Kentucky.
"	Troost and Byrne,	Alabama.
"	Browning and Sebring,	South Carolina.
"	Topp and Williams,	Tennessee.
"	Smedes and Clapp,	Mississippi.
"	Bemiss and Douglass,	Louisiana.
"	Kennett and Blair,	Missouri.
Hon.	Hamilton Smith,	Indiana.
"	C. G. Baylor,	Dist. of Columbia.

Speeches were made by Messrs. Penn, Otey, Trezevant, Smith, Topp, Quintard, Bell, Stanton, Pryor, Merrill and Yerger, of Tennessee; Messrs. Dawson, Cohen and Lawton, of Georgia; Messrs. Foote, Marshall, Coleman, Byrne, Quitman, Davis, Hardeman, Smedes and Clapp, of Mississippi; Messrs. Fowler and Bishop, of Arkansas; Messrs. Chambers, Lucas, Ryland, Kennett, Kasson, Hudson, Blair, Kayser, Bland, Purcell and Cobb, of Missouri; Mr. Baylor, of the District of Columbia; Messrs. Walker, Oakey, Lumsden, Moore, Bemiss, Wheat, Huling, McGimpsey and Thrasher, of Louisiana; Mr. Hunt, of Texas; Mr. Platt, of Alabama; Mr. Apperson, of Kentucky; Messrs. Ellis and Botts, of Virginia; Mr. Smith, of Indiana; Mr. Browing, of South Carolina.

The following resolutions, reported by the Committee on Business, were adopted, with slight amendments, as amended.

Whereas, The important questions of deepening the channel at the mouth of the Mississippi, and the improvement of the rapids in said river, known as the Desmoines and Rock River rapids, have already attracted the attention of Congress, and under appropriations made by it, competent engineers have made surveys and reports, showing that said improvements are practicable—and as these works have a most important bearing upon the interests of all the States lying upon this great river, und its affluents—and the appropriations made by Congress are manifestly inadequate for the purposes desired, and disproportioned to the objects and results to be obtained.

Be it resolved, That this Convention strongly urges upon Congress prompt and liberal action upon these subjects, and earnestly request that all the Senators and Representatives in Congress,

from the States represented in this Convention, use their best efforts to procure at an early day the necessary appropriations for their accomplishment.

And whereas, similar reports have been made by boards of competent Engineers, appointed by the Government of the United States, which show the entire practicability of improving the harbors of Charleston, Savannah, Mobile, Baltimore, Richmond, Galveston, and the inlet and harbor of Wilmington, N. C., and the estimates by them prepared for the purposes, do not involve any very large outlay of money, therefore

Resolved, That this Convention also urge upon Congress speedy attention to these eminently meritorious claims upon the United States.

THE PACIFIC RAILROAD.

Resolved, That a Railroad from the Mississippi Valley to the Pacific Ocean is demanded not only by commercial and individual interests, but by our national necessities.

Resolved, That as soon as the surveys, recently ordered by Congress, are completed, the General Government should adopt such steps as will insure the completion of the main trunk of said road at the earliest possible period.

Resolved, That the main trunk, should be located on the route which scientific explorations shall show combines, in the greatest degree, the advantages of genial and temperate climate, fertility of soil, cheapness of construction, and accessibility at all seasons, from all portions of the Union.

Resolved, That in the opinion of the convention it is right, expedient and proper that the General Government should make large donations of the public lands to the different States, bordering on either side of the Mississippi, to enable all sections of the Union, however remote, to connect themselves with the main trunk.

THE TEHUANTEPEC ROUTE.

Whereas, The project of opening a communication between the Atlantic and Pacific oceans by railroad across the Isthmus of Tehuantepec recommonds itself to the warm support of the whole Union, and particularly to that of the western and south-western States, by its great practicability, the facility and cheapness of its construction, as well as the short time required for its completion, thus affording to the commerce and travel of not only the United States but the world a cheap and easy access to the Pacific coast:

Resolved, therefore, That our Representatives in Congress be requested to press upon the Government the necessity of bringing to a favorable termination, as soon as possible, the negotiations pending in regard to the right of way across said Isthmus, and

that they be also instructed to maintain, by all legitimate, constitutional means, the rights of American citizens in the grants made by the Mexican Government.

MANUFACTURES.

Whereas, The Southern States of this Union now have and for a long period must have a virtual monopoly in the production of raw cotton for commerce; and whereas, it is of vast importance to these States that their great staple should be sent abroad in its most valuable form; and whereas, it is believed that this staple can be wrought up with extraordinary cheapness on and near the fields of its growth; therefore,

Be it resolved, That the President of this convention appoint a Committee of five members, who shall be requested to prepare for publication and distribution, particularly in the manufacturing districts of Europe, a full report of the peculiar facilities offered by the Southern and Western States for the manufacture of cotton, and that this report be published as a part of the proceedings of this Convention.

EDUCATION.

Resolved, That this Convention earnestly recommend to the citizens of the State here represented, the education of their youth at home, as far as practicable. The employment of teachers in their schools and colleges; the encouragement of a home press; the publication of books adapted to the educational wants and the social condition of these States; and the encouragement and support of inventions and discoveries in the arts and sciences by their own citizens.

ON STEAMERS FROM SOUTHERN PORTS.

Resolved, That this Convention regards the establishment of a system of quick communication by steam between our Southern ports and Europe, and encouragement and protection of this system by the National Government, connecting therewith ample mail facilities, as a necessary feature in the commercial independence of the South and West.

ON DIPLOMACY CONCERNING COTTON.

Resolved, That the attention of our Senators and Representatives in Congress be called to the propriety of bringing before the Administration the importance of making the Cotton interest a subject of instruction to our foreign commercial and diplomatic agents.

HYDROMETIC GAUGES.

Whereas, The investigation of the laws which regulate the rises and falls of the Mississippi river and its tributaries, and the adoption of some system, by which the great valley of the Mississippi may be protected from inundation, and the navigation of the western waters be best perfected and secured, are subjects of the

deepest interest and importance to the whole western and southern country. Therefore,

Resolved, That this Convention respectfully recommends to Congress, that among the measures calculated to advance the above objects and facilitate the schemes already undertaken, it deems it highly important that the General Government should appoint a special corps of scientific engineers to investigate the laws which govern the Mississippi river and its tributaries, to devise the best system of improving the navigation of these rivers, and of protecting their lands from overflow, if necessary, to send abroad a similar corps of scientific engineers, to examine the systems of improvements adopted in other countries, and to report upon all matters connected with these subjects.

Resolved, That in furtherance of the objects sought, we deem it highly important that a system of hydrometric guages should be established by the General Government at several points along the Mississippi and its tributaries, at the principal towns and cities, by which the actual stages of their waters may be accurately ascertained from day to day, the depths of their channels regularly sounded, and the changes going on upon their banks be marked and recorded, all which shall be reported to the proper department of the General Government from time to time.

ADDRESS TO CONGRESS.

Resolved, That a committee of five be appointed by the President of this convention to prepare an address to the Congress and people of the United States on the topics embraced in the action of this Convention—invoking the attention to its proceedings and action, and enforcing them upon their consideration. And that this address be published as an appendix to the proceedings of this Convention.

ON ORINOCO, AMAZON AND LA PLATA RIVER.

Resolved, That this Convention highly approves the steps which have been taken by the United States government to obtain the fullest information in respect to the countries bounding the Orinoco, Amazon and La Plata rivers, with a view to opening the trade of that vast region to American enterprise, and the Senators and Representatives in Congress from the States represented in this Convention are respectfully requested to use all proper means, by the establishment of mail steamers from the port of New Orleans to suitable points on the Southern American continent, (or in such other mode as may be deemed most expedient,) to secure to the people of the United States the advantages of trade and intercourse with the regions refered to.

Resolved, That in the opinion of this Convention, Lieutenant Maury deserves the thanks of the American people for the able manner in which he has advocated the proposed project of uniting

by the ties of commerce and common interest, the great valley of the Mississippi with the tropical countries of our sister continent, and we trust his efforts will not be relaxed until the great end in view is fully consummated.

The following resolutions were also adopted:

STATE BUREAU OF STATISTICS.

Offered by Mr. Carson, of Missouri.

Resolved, That in the opinion of this Convention, it is of great importance that each State should establish a bureau of statistics under the special superintendence of a statistician, in which shall be collected all facts touching the capability, productions, industry, arts, wealth and population of the State, the superintendent of which should, at each session of the Legislature, report thereto such facts and suggestions as he may think expedient or they may demand.

HIGH NORMAL SCHOOLS.

Offered by Mr. Marshall, of Mississippi.

Resolved, That amongst the most important measures necessary to the success of our educational interests, is the establishment by the several South and Southwestern States of High Normal Schools, for the free admission of such persons both male and female, as may wish to devote themselves to the profession of teaching within their borders, and we most respectfully urge this subject upon the attention of the Governors and Legislatures of the said States.

MISSISSIPPI VALLEY RAILROAD.

Offered by Mr. Cobb, of Missouri.

Resolved, That the Mississippi Valley Railroad, from the city of New Orleans to the Falls of St. Anthony, is a measure highly conducive to the prosperity of the South and West.

Resolved, That the Congress of the United States while granting public lands in favor of various railroads running East and West, be memorialized to make a liberal grant to the various States along the line, to aid in building the Mississippi Valley Railroad.

Resolutions complimentary to the citizens of Memphis, to the President and Officers of the Convention, and to the Ladies in attendance, were carried by acclamation, and the Convention, having been in session four days, and having resolved, on the invitation of Mr. Browning, of S. C., to meet anew at Charleston, on the 2d Monday in April 1854, adjourned.

DELEGATES FROM MISSOURI TO THE MEMPHIS CONVENTION.

James H. Lucas, L. M. Kennett, A. B. Chambers, F. B. Blair, jr., T. F. Purcell, Alex. Kayser, Henry Cobb, F. V. Valle,

J. E. Elder, T. B. Hudson, P. E. Bland, A. H. Glasby, R. J. Lockwood, Thomas D. Day, E. M. Ryland, Wm. Renshaw, Jr., J. J. Harrell, John A. Kasson, Jos. Woods, John Hodges, H. T. Chiles, Andrew Christy, F. W. De Kantzow, T. F. Risk, of St. Louis. J. Cannon, Hiram L. Sloan, of Cape Girardeau. Jsham Bridges, of Mississippi County.

Foreign Investments in the United States.

In a late number of the distinguished and valuable *Railroad Journal* we find leading and judicious observations on the above object. As an extraordinary passion is arising in this country for the sale of our Railroad Bonds to foreign capitalists, before we establish a substantial basis for their value at home, we consider the suggestions in the article as peculiarly timely, as calculated to prevent a feverish inflation of public credit, and to promote a healthful progress of Internal Improvements. The railroad system of Missouri was framed with a cautious regard for complete success, and that success will be most surely guaranteed by reliance mainly on our own resources.

The following quotation is worthy of profound consideration.

"We think the interest of all parties, both of purchasers and sellers, will be best promoted by having all our schemes first brought out at home. It is only at home that a correct estimate can be formed of their value. The general settlement of the country will rarely mistake either the character of the project or of the parties engaged in it. This sentiment will assign to it its true position. The evidence upon which this judgment is made up, is often of too complicated and subtle a kind, to be either analized or sustained by reference to particular and palpable facts; but for this very reason it is all the more valuable, and less liable to lead into error. We often cannot trace our strongest convictions to any source. We *absorb* them, as the plant does the atmosphere. We often oppose them to the strongest individual testimony. Nothing is more common than to disprove the direct statements of a witness, by the *common* sentiment of a community. Now by taking up a scheme brought out in London, the purchaser dispenses with the very best evidence in the case—evidence, too, which may constitute his only safety."

STATISTICAL DEPARTMENT.

Productions of Agriculture in the United States.—Seventh Census—1850.*

States and Territories.	Acres of land in farms.		Cash value of farms.	Value of farming implements and machinery.
	Improved.	Unimproved.		
Maine	2,039,596	2,515,797	$54,861,748	$2,284,557
New Hampshire	2,251,488	1,140,926	55,245,997	2,314,125
Vermont	2,601,409	1,524,413	63,367,227	2,739,282
Massachusetts	2,133,436	1,222,576	109,076,347	3,209,584
Rhode Island	356,487	197,451	17,070,802	497,201
Connecticut	1,768,178	615,701	72,726,422	1,892,541
New York	12,408,968	6,710,120	554,546,642	22,084,926
New Jersey	1,767,991	984,955	120,237,511	4,425,503
Pennsylvania	8,628,619	6,294,728	407,876,099	14,722,541
Delaware	580,862	375,282	18,880,031	510,279
Maryland	2,797,905	1,836,445	87,178,545	2,463,443
District of Columbia	16,267	11,187	1,730,460	40,220
Virginia	10,360,135	15,792,176	216,401,441	7,021,772
North Carolina	5,453,977	15,543,010	67,891,766	3,931,532
South Carolina	4,072,651	12,145,049	82,431,684	4,136,354
Georgia	6,378,479	16,442,900	95,753,445	5,894,150
Florida	349,049	1,236,240	6,323,109	658,795
Alabama	4,435,614	7,702,067	64,323,224	5,125,663

Mississippi	3,444,358	7,046,061	54,738,634	5,762,927
Louisiana	1,590,025	3,939,018	75,814,398	11,576,938
Texas	639,107	14,454,669	16,398,747	2,133,731
Arkansas	781,531	1,816,684	15,265,245	1,601,296
Tennessee	5,175,173	13,808,849	97,851,212	5,360,220
Kentucky	11,368,270	10,972,478	154,330,262	5,169,037
Ohio	9,851,493	8,146,000	358,758,603	12,750,585
Michigan	1,929,110	2,454,780	51,872,446	2,891,371
Indiana	5,046,543	7,746,879	136,385,173	6,704,444
Illinois	5,039,545	6,997,867	96,133,290	6,405,561
Missouri	2,938,425	6,794,245	63,225,543	3,981,525
Iowa	824,682	1,911,382	16,657,567	1,172,869
Wisconsin	1,045,499	1,931,159	28,528,563	1,641,568
California	62,324	3,831,571	3,874,041	103,483
Minnesota Territory	5,035	23,846	161,948	15,981
Oregon Territory	132,857	299,951	2,849,170	183,423
Utah Territory	16,333	30,516	311,799	84,288
New Mexico Territory	166,201	124,370	1,653,952	77,960
Aggregate	118,457,622	184,621,348	3,270,733,093	151,569,675

NOTE.—In vol. IX, page 292, we published a tabular statement of the agricultural productions of the United States, which we copied from the 3d volume of the Annual Message and accompanying documents from the President to the first session of the 32d Congress; but having discovered some important errors in the tables from which we copied, (especially in respect to the hemp crop,) we have concluded to republish those tables in connection with one embracing a larger number of facts, which we copy from documents accompanying the message to the 2d session of the last Congress. These tables occupy a large space in the present number, but the facts they embrace are so essential to a proper understanding of the interests and resources of all parts of the country, that we could not omit them without doing injustice to our work—nor could the tables have been published in parts without rendering them inconvenient to the reader.—*Editors.*

Productions of Agriculture in the United States—Continued.

States and Territories.	Live Stock.							Value of live stock.
	Horses.	Asses and mules.	Milch cows.	Working oxen.	Other cattle.	Sheep.	Swine.	
Maine	41,721	55	133,556	83,893	125,890	451,577	54,598	$9,705,726
New Hampshire	34,233	19	94,277	59,027	114,606	384,756	63,487	8,871,901
Vermont	61,057	218	146,128	48,577	154,143	1,014,122	66,296	12,643,228
Massachusetts	42,216	34	130,099	46,611	83,284	188,651	81,119	9,647,710
Rhode Island	6,168	1	28,698	8,189	9,375	44,296	19,509	1,532,637
Connecticut	26,879	49	85,461	46,988	80,226	174,181	76,472	7,467,490
New York	447,014	963	931,324	178,909	767,406	3,453,241	1,018,252	73,570,499
New Jersey	63,955	4,089	118,736	12,070	80,455	160,488	250,370	10,679,291
Pennsylvania	350,398	2,259	530,224	61,527	562,195	1,822,357	1,040,366	41,500,053
Delaware	13,852	791	19,248	9,797	24,166	27,503	56,261	1,849,281
Maryland	75,684	5,644	86,859	34,135	98,595	177,902	352,911	7,997,634
District of Columbia	824	57	813	104	123	150	1,635	71,643
Virginia	272,403	21,480	317,619	89,513	669,137	1,310,004	1,830,743	33.656,659
North Carolina	148,693	25,259	221,799	37,309	434,402	595,249	1,812,813	17,717,647
South Carolina	97,171	37,483	193,244	20,507	563,935	285,551	1,065,503	15,060,015
Georgia	151,331	57,379	334,223	73,286	690,019	560,435	2,168,617	25,728,416
Florida	10,848	5,002	72,876	5,794	182,415	23,311	209,453	2,880,058
Alabama	128,001	59,895	227,791	66,961	433,263	371,880	1,904,540	21,690,112

Mississippi	115,460	54,547	214,231	83,485	436,254	304,929	1,582,734	19,403,662
Louisiana	89,514	44,849	105,576	54,968	414,798	110,333	597,301	11,152,275
Texas	75,419	12,304	214,758	49,982	636,805	99,698	683,514	10,266,880
Arkansas	60,197	11,559	93,151	34,239	165,320	91,256	836,727	6,647,969
Tennessee	270,636	75,303	250,456	86,255	414,051	811,591	3,104,800	29,978,016
Kentucky	315,682	65,609	247,475	62,074	442,763	1,102,121	2,861,163	29,591,387
Ohio	463,397	3,423	544,499	65,381	749,067	3,942,929	1,964,770	44,121,741
Michigan	58.506	70	99,676	55,350	119,471	746,435	205,847	8,008,734
Indiana	314,299	6,599	284,554	40,221	389,891	1,122,493	2.263,776	22,478,555
Illinois	267,653	10,573	294,671	76,156	541,209	894,643	1,915,910	24,209,258
Missouri	225,299	41,667	230,169	112,168	449,173	762,511	1.702,625	19,892,280
Iowa	38,536	745	45,704	21,892	69,025	149,960	323,247	3,689,375
Wisconsin	30,179	156	64,339	42,801	76,293	124,892	159,276	4,897,385
California	21,719	1,666	4,280	4,780	253,599	17,574	2,776	3.351,058
Minnesota Territory	860	14	607	655	740	80	734	92,859
Oregon Territory	8,046	420	9,427	8,114	24,188	15,382	30,235	1,876,189
Utah Territory	2,429	325	4,861	5,266	2,489	3,262	914	546,968
New Mexico Territory	5,079	8,654	10,635	12,257	10,085	377,271	7,314	1,494,629
Aggregate	4,335,358	559,229	6,392,044	1,699,241	10,268,856	21,721,814	30,316,608	543,969,420

Productions of Agriculture in the United States—Continued.

States and Territories.	PRODUCE DURING THE YEAR ENDING JUNE 1, 1850.					
	Wheat, bushels of.	Rye, bushels of.	Indian corn, bushels of.	Oats, bushels of.	Rice, pounds of.	Tobacco, pounds of.
Maine	296,259	102,916	1,750,056	2,181,037	.....	.....
New Hampshire	185,658	183,117	1,573,670	973,381	.....	50
Vermont	535,955	176,233	2,032,396	2,307,734	.....	.....
Massachusetts	31,211	481,021	2,345,490	1,165,146	.....	138,246
Rhode Island	49	26,409	539,201	215,232	.....	.....
Connecticut	41,762	600,893	1,935,043	1,258,738	.....	1,267,624
New York	13,121,498	4,148,182	17,858,400	26,552,814	.....	83,189
New Jersey	1,601,190	1,255,578	8,759,704	3,378,063	.....	310
Pennsylvania	15,367,691	4,805,160	19,835,214	21,538,156	.....	912,651
Delaware	482,511	8,066	3,145,542	604,518	.....	.....
Maryland	4,494,680	226,014	11,104,631	2,242,151	.....	21,407,497
District of Columbia	17,370	5,509	65,230	8,134	.....	7,800
Virginia	11,232,616	458,930	35,254,319	10,179,045	17,154	56,803,218
North Carolina	2,130,102	229,563	27,941,051	4,052,078	5,465,868	11,984,786
South Carolina	1,066,277	43,790	16,271,454	2,322,155	159,930,613	74,285
Georgia	1,088,534	53,750	30,080,099	3,820,044	38,950,691	423,924
Florida	1,027	1,152	1,996,809	66,586	1,075,090	998,614

Alabama	294,044	17,261	28,754,048	2,965,697	2,311,252	164,990
Mississippi	137,990	9,606	22,446,552	1,503,288	2,719,856	49,960
Louisiana	417	475	10,266,373	89,637	4,425,349	26,878
Texas	41,689	3,108	5,926,611	178,883	87,916	66,897
Arkansas	199,639	8,047	8,893,939	656,183	63,179	218,936
Tennessee	1,619,381	89,163	52,276,223	7,703,086	258,854	20,148,932
Kentucky	2,140,822	415,073	58,675,591	8,201,311	5,688	55,501,196
Ohio	14,487,351	425,718	59,078,695	13,472,742	.....	10,454,449
Michigan	4,925,889	105,871	5,641,420	2,866,056	.....	1,245
Indiana	6,214,458	78,792	52,964,363	5,655,014	.....	1,044,620
Illinois	9,414,575	83,364	57,646,984	10,087,241	.....	841,394
Missouri	2,981,652	44,268	36,214,537	5,278,079	700	17,113,784
Iowa	1,530,581	19,916	8,656,799	1,524,345	500	6,041
Wisconsin	4,286,131	81,253	1,988,979	3,414,672	.....	1,268
California	17,328	.....	12,226	.....	.....	1,000
Minnesota Territory	1,401	125	16,725	30,582	.....	.....
Oregon Territory	211,493	106	2,918	65,146	.....	325
Utah Territory	107,702	210	9,899	10,900	.....	70
New Mexico Territory	196,516	.....	365,411	5	.....	8,467
Aggregate	100,503,899	14,188,639	592,326,612	146,567,879	215,312,710	199,752,646

Productions of Agriculture in the United States—Continued.

States and Territories.	PRODUCE DURING THE YEAR ENDING JUNE 1, 1850.					
	Ginned cotton, bales of 400 pounds each.	Wool, pounds of.	Peas and beans, bushels of.	Irish potatoes, bushels of	Sweet potatoes, bushels of.	Barley, bushels of.
Maine	.....	1,364,034	205,541	3,436,040	.....	[illegible],731
New Hampshire	.....	1,108,476	70,856	4,304,919	.....	70,2[illegible]6
Vermont	.....	3,400,717	104,649	4,951,014	.....	42,150
Massachusetts	.....	855,136	43,709	3,585,384	.....	112,385
Rhode Island	.....	129,692	6,846	651,029	.....	18,875
Connecticut	.....	497,454	19,090	2,689,725	80	19,099
New York	.....	10,071,301	741,636	15,398,362	5,623	3,585,059
New Jersey	.....	375,396	14,174	3,207,236	508,015	6,492
Pennsylvania	.....	4,481,570	55,231	5,980,732	52,172	165,584
Delaware	.....	57,768	4,120	240,542	65,443	56
Maryland	.....	480,226	12,816	764,939	208,993	745
District of Columbia	.....	525	7,754	28,292	3,497	75
Virginia	3,947	2,860,765	521,581	1,316,933	1,813,671	25,437
North Carolina	73,849	970,738	1,584,[illegible]52	620,318	5,095,709	2,735
South Carolina	300,901	487,[illegible]33	1,026,900	136,494	4,337,469	4,583
Georgia	499,091	990,019	1,142,011	227,379	6,986,428	11,501
Florida	45,131	23,247	135,359	7,828	757,226	.....
Alabama	564,429	657,118	892,701	246,001	5,475,204	3,958
Mississippi	484,293	559,619	1,072,757	261,482	4,741,795	229
Louisiana	178,737	109,897	161,732	95,632	1,428,453	.....
Texas	57,596	131,374	179,332	93,548	1,323,170	4,776
Arkansas	65,346	182,595	285,738	193,832	788,149	177

Tennessee	194,532	1,364,378	369,321	1,067,844	2,777,716	2,737
Kentucky	758	2,297,403	202,574	1,492,487	998,184	95,343
Ohio	.....	10,196,371	60,168	5,057,769	187,991	354,358
Michigan	.....	2,043,283	74,254	2,359,897	1,177	75,249
Indiana	14	2,610,287	35,773	2,083,337	201,711	45,483
Illinois	.....	2,150,113	82,814	2,514,861	157,433	110,795
Missouri	.....	1,627,164	46,017	939,006	335,505	9,631
Iowa	.....	373,898	4,775	276,120	6,243	25,093
Wisconsin	.....	253,963	20,657	1,402,077	879	209,692
California	.....	5,520	2,292	9,292	1,000	9,712
Minnesota Territory	.....	85	10,002	21,145	200	1,216
Oregon Territory	.....	29,686	6,566	91,326	.....	.....
Utah Territory	.....	9,222	289	43,968	60	1,799
New Mexico Territory	.....	32,901	15,688	3	.....	5
Aggregate	2,468,624	52,789,174	9,219,975	65,796,793	38,259,196	5,167,016

Productions of Agriculture in the United States—Continued.

States and Territories.	PRODUCE DURING THE YEAR ENDING JUNE 1, 1850.					
	Buckwheat, bushels of.	Value of orchard products.	Wine, gallons of.	Value of produce of market gardens.	Butter, pounds of.	Cheese, pounds of.
Maine	104,523	$342,865	724	$122,387	9,243,811	2,434,454
New Hampshire	65,265	248,563	344	56,810	6,977,056	3,196,563
Vermont	209,819	315,255	659	18,853	12,137,980	8,720,834
Massachusetts	105,895	463,995	4,688	600,020	8,071,370	7,088,142
Rhode Island	1,245	63,994	1,013	98,298	995,670	316,508
Connecticut	229,297	175,118	4,269	196,874	6,498,119	5,363,277
New York	3,183,955	1,761,950	9,172	912,047	79,766,094	49,741,413
New Jersey	878,934	607,268	1,811	475,242	9,487,210	365,756
Pennsylvania	2,193,692	723,389	25,590	688,714	39,878,418	2,505,031
Delaware	8,615	46,574	145	12,714	1,055,308	3,187
Maryland	103,671	164,051	1,431	200,869	3,806,160	3,975
District of Columbia	378	14,843	863	67,222	14,872	1,500
Virginia	214,898	177,137	5,408	183,017	11,089,359	436,298
North Carolina	16,704	34,348	11,058	39,462	4,146,290	95,921
South Carolina	283	35,108	5,880	47,286	2,981,850	4,970
Georgia	250	92,776	796	76,500	4,640,559	46,976
Florida	55	1,280	10	8,721	371,498	18,015
Alabama	348	15,408	220	84,821	4,008,811	31,412
Mississippi	1,121	50,405	407	46,250	4,346,234	21,191
Louisiana	3	22,359	15	148,329	683,069	1,937

Texas	59	12,605	99	12,254	2,326,556	94,619
Arkansas	175	40,141	35	17,150	1,854,239	30,088
Tennessee	19,427	52,894	92	97,183	8,139,585	177,681
Kentucky	16,097	106,230	8,093	293,120	9,887,523	213,954
Ohio	638,064	695,921	48,207	214,004	34,449,379	20,819,542
Michigan	472,917	132,650	1,654	14,738	7,065,878	1,011,492
Indiana	149,740	324,940	14,055	72,864	12,881,535	624,564
Illinois	184,504	446,089	2,997	127,494	12,526,543	1,278,225
Missouri	23,641	514,711	10,563	99,454	7,834,359	203,572
Iowa	52,516	8,434	420	8,848	2,171,188	209,840
Wisconsin	79,878	4,823	113	32 142	3,633,750	400,283
California	.....	17,700	58,055	75,275	705	150
Minnesota Territory	515	.....	.....	150	1,100	.....
Oregon Territory	.....	1,271	.....	90,241	211,464	36,980
Utah Territory	332	.....	.....	23,868	83,309	20,993
New Mexico Territory	100	8,231	2,363	6,679	111	5,848
Aggregate	8,956,916	7,723,326	221,240	5,269,930	313,266,962	105,535,219

Productions of Agriculture in the United States—Continued.

States and Territories.	PRODUCE DURING THE YEAR ENDING JUNE 1, 1850.								
	Hay, tons of.	Clover seed, bushels of.	Other grass seeds, bushels of.	Hops, pounds of.	Hemp.		Flax, pounds of.	Flaxseed, bushels of.	Silk cacoons, pounds of.
					Dew rotted, tons of.	Water rotted, tons of.			
Maine	755,889	9,097	9,214	40,120	.....	.....	17,081	580	252
New Hampshire	598,854	829	8,071	257,174	.....	.....	7,652	189	191
Vermont	866,153	760	14,936	288,023	.....	.....	20,852	939	268
Massachusetts	651,807	1,002	5,085	121,595	.....	.....	1,162	72	7
Rhode Island	74,818	1,328	3,708	277	.....	.....	85	.....	.....
Connecticut	516,131	13.841	16,608	554	.....	.....	17,928	703	328
New York	3,728,797	88.222	96,493	2,536,299	1	3	940,577	57,963	1,774
New Jersey	435,950	28,280	63,051	2,133	.....	.....	182,965	16,525	23
Pennsylvania	1,842,970	125,030	53,913	22,088	44	.....	530,307	41,728	285
Delaware	30,159	2,525	1,403	348	.....	.....	11,174	904	.....
Maryland	157,956	15,217	2,561	1,870	.....	.....	35,686	2,446	39
District of Columbia	2,279	3	.....	15	.....	.....	.....	.....	.....
Virginia	369,098	29,727	23,428	11,506	90	51	999,450	52,318	517
North Carolina	145.662	576	1,275	9,246	36	3	593,796	38,196	229
South Carolina	20,925	376	30	26	.....	.....	333	55	123
Georgia	23,449	132	428	261	.....	.....	5,387	622	813
Florida	2,510	.....	2	14	.....	.....	50	.....	0
Alabama	32,685	138	547	276	.....	.....	3,921	69	167

Mississippi	12,505	84	533	473	7	.....	665	26	2
Louisiana	25,752	2	97	125	.....	.....	.....	.....	29
Texas	8,279	10	.....	7	.....	.....	1,048	26	22
Arkansas	3,977	90	436	157	.....	15	12,291	321	38
Tennessee	74,092	5,096	9,118	1,032	456	141	368,131	18,906	1,923
Kentucky	113,747	8,230	21,481	4,309	16,432	1,356	2,107,261	75,801	1,281
Ohio	1,443,142	103,197	37,310	63,731	100	50	446,932	188,880	1,552
Michigan	404,934	16,989	9,285	10,663	.....	.....	7,152	519	108
Indiana	403,230	18,321	11,951	92,796	67	62	584,609	36,888	387
Illinois	601,952	3,427	14,380	3,551	93	56	160,063	10,785	47
Missouri	116,925	619	4,346	3,130	15,968	60	527,160	13,696	186
Iowa	89,055	342	2,096	8,242	.....	.....	62,660	1,959	246
Wisconsin	275,662	483	5,003	15,930	.....	2	68,393	1,191	.....
California	2,038	.....	.....	.....	.....	.....	.....	.....	.....
Minnesota Territory	2,019	.....	.....	.....	.....	.....	.....	.....	.....
Oregon Territory	373	4	22	8	.....	.....	640	.....	.....
Utah Territory	4,805	2	.....	50	.....	.....	550	5	.....
New Mexico Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aggregate	13,838,579	468,979	416,811	3,496,029	33,294	1,799	7,715,961	562,312	10,843

Productions of Agriculture in the United States—Continued.

States and Territories.	PRODUCE DURING THE YEAR ENDING JUNE 1, 1850.					
	Maple sugar, pounds of.	Cane sugar, hhds. of 1,000	Molasses, gallons of.	Beeswax and honey, pounds of.	Value of home-made manufactures.	Value of animals slaughtered.
Maine	93542	.....	3176	189618	$513599	$1,646,773
New Hampshire	1294863	.....	9811	117140	393455	1,522,873
Vermont	6349357	.....	5997	249422	267710	1,861,336
Massachusetts	795525	.....	4693	59508	205333	2,500,924
Rhode Island	28	.....	4	6347	26495	667,486
Connecticut	50796	.....	665	93304	192252	2,202,266
New York	10357484	.....	56529	1756190	1280333	13,573,983
New Jersey	2197	.....	954	156694	112781	2,638,552
Pennsylvania	2326555	.....	50652	839509	749132	8,219,848
Delaware	.....	.....	50	41248	38121	373,665
Maryland	47740	.....	1430	74802	111828	1,954,800
District of Columbia	.....	.....	.....	550	2075	9,038
Virginia	1227665	.....	40322	880767	2156312	7,503,006
North Carolina	27932	.....	704	512289	2086522	5,767,866
South Carolina	200	671	15904	216281	909525	1,302,637
Georgia	50	1644	216150	732514	1838968	6,339,762

Florida	.....	2752	352893	18971	75582	514,685
Alabama	643	8242	83428	897021	1934120	4,823,485
Mississippi	.....	388	18318	397460	1164020	3,636,582
Louisiana	255	226001	10931177	96701	139232	1,458,990
Texas	.....	7351	441638	380532	255719	1,106,032
Arkansas	9330	.....	18	192338	638217	1,162,913
Tennessee	158557	248	7223	1036572	3137810	6,401,765
Kentucky	437405	284	30079	1158019	2458128	6,462,598
Ohio	4588209	.....	197308	804275	1712196	7,439,243
Michigan	2439794	.....	19823	359332	340947	1,328,327
Indiana	2921642	.....	180325	935329	1631039	6,567,935
Illinois	248904	.....	8354	869444	1155902	4,972,286
Missouri	178910	.....	5636	1328972	1674705	3,376,106
Iowa	78407	.....	3162	321711	221292	821,164
Wisconsin	610976	.....	9874	131005	43624	920,178
California	.....	.....	.....	.....	7000	100,173
Minnesota Territory	2950	.....	.....	80	.....	2,840
Oregon Territory	.....	.....	24	.....	.....	164,530
Utah Territory	.....	.....	58	10	1392	67,985
New Mexico Territory	.....	.....	4236	2	6033	82,125
Aggregate	34249886	247581	12700606	14853857	27481399	109,485,757

Pacific Railroad.

Desiring to present here a concise and accurate statement of the condition and prospective progress of this enterprise, we have been careful to obtain exact figures, and find that the work on this road is progressing very satisfactorily.

On the 4th of July, the cars will run 33 miles out to Allenton, and within a few days after to Franklin County, 37 miles, at the end of 1st Division, where the road branches, one branch directed to reach the State line near the mouth of the Kanzas, and the other near the southwest corner of the State.

The receipts for passengers for the 13 miles opened for use, have been, for the month of June, about $4,000.00. This is double the amount originally estimated.

The 2d Division, of about 88 miles on the Kanzas route to Jefferson City (125 miles from St. Louis,) is now under contract its whole length, and the contractors are starting at their work energetically. There are now about 700 men on the 2d Division, and their number is daily increasing.

The location surveys on the southwest branch are drawing to a close rapidly. An approximate location of route has been filed in the General Land Office subject to correction in detail, and the land offices are ordered to be opened for sale except in the immediate neighborhood of the road.

The President is now in New York negotiating a loan. He has published a very full statement of the position and legal obligations of the company.

A mortgage on 1,000,000 acres of the land grant, has been made, and is now being recorded in the different counties of the State along the line.

A loan of $10,000,000 is asked on the 1st mortgage of the Southwest Branch, and 2d mortgage on the main route (to Kanzas).

The President has issued proposals for $4,000,000 of this loan to be opened on the 11th of July. No doubt is entertained but that this loan will be taken on good terms, in which case a considerable portion of the Southwest Branch will be put under contract at once, and both routes be pushed rapidly to completion to the State Line.

Mississippi Valley Railroad.

This enterprise was approved by the Memphis Convention, on the 9th of June, and a liberal grant of the Public Lands called for to aid in its construction.

NORTH MISSOURI RAILROAD.

On the 12th of June, the stockholders of the *North Missouri Railroad* elected their Board of Directors who chose COL. JOHN O'FALLON President, E. C. WILLS Secretary and Treasurer, and W. W. MORRIS Engineer. About $1,000,000 stock has been subscribed; State loan $2,000,000; maps of the country along the route, from St. Louis to Iowa, are being prepared, and the road will soon be surveyed and located through St. Louis and St. Charles counties.

IRON MOUNTAIN RAILROAD.

The Iron Mountain Railroad Co. are rapidly completing the location of their road, and expect to put it under contract this summer. The co-operating movement in Hickman, Ky., to connect it with the *Mobile & Ohio Railroad* at that point, will add to the brilliancy of its prospects.

CAIRO AND FULTON RAILROAD.

The Arkansas portion of the Mississippi Valley Railroad is making strong headway. The Governor of the State and the President of the Company are acting with admirable unanimity to secure the immediate prosperity of this work.

The True Democrat, of Little Rock, is boldly arousing the spirit of the State in its favor, and the Editors north and south are gallantly co-operating in the cause, in spite of the violent opposition of a political wing.

The President of the Company has issued a judicious *Circular Letter* addressed to agents appointed to solicit stock subscriptions and donations of right of way for the *Cairo & Fulton R. R. Co.* This letter places the whole enterprise on the most substantial basis, *bona fide* subscriptions for stock; and if responded to faithfully and promptly by the people of the State, the credit of the company will soon be as substantial as the character of the letter.

The President of the United States has ordered a reservation of the lands along the line of this road until the 6th of October next.

From the letter of the Comr. of the Gen. Land Office to ROSWELL BEEBE, President of the Railroad Company, we find that a tract of land, 15 miles wide on each side of the route surveyed by Capt. Barney from Chalk Bluff to Fulton, has been withdrawn from sale or entry. Also a tract of 30 miles wide from Chalk Bluff to the Mississippi river, opposite the mouth of the Ohio in Missouri. Also two tracts for the branches from the Mississippi river through Little Rock to Fort Smith. The eyes of capitalists must be watching the progress of the Arkansas road with eager attention.

LITERARY DEPARTMENT.

Valley of the Ohio.

ITS CONQUEST AND SETTLEMENT BY AMERICANS.

BY MANN BUTLER, ESQ.,
Author of the "History of the Commonwealth of Kentucky."

At Fort Duquesne a scene of barbarian triumph and ferocity is well described by a prisoner in the Fort.* From this author we learn, that the French commandant did not expect to defeat the enemy; but only annoy them.

The tortures inflicted on the prisoners by the Indians, after this bloody defeat, confirm most indisputably the necessity of conquering and expelling a people so savage. The prisoners were brought out, and after torturing them in every possible mode, that diabolical cruelty could suggest, were burned at the stake, amidst the horrible parade of their tormentors in Indian paint and European regimentals.

The resemblance of this sad defeat to that of our own St. Clair, and, on a smaller scale, to the destructive battle of the Blue Licks, in position as well as effect, at a still later period of our history, irresistibly strikes the attention. All these encounters, as well as the whole military history of the Whites and Indians in recent times, show the astonishing superiority which European arms have given the latter over their ancestors. At the first landing of the Europeans on this continent, the opposition of the natives was insignificant: but by fire-arms furnished by their civilized visitors the aborigines have frequently and effectually reversed the early contests with the foreigners. Unfortunately for the western country, it has had to encounter and overcome the superiority lent to the savages by the arts of Europe.

The defeat of Braddock brought the Indians in vengeance on the exposed frontiers of Pennsylvania, Maryland and Virginia, abandoned by the royal troops in a cowardly panic. The devastations committed by the savages were greatly aggravated by this dastardly abandonment of his duty and the public defence by Col. Dunbar. This officer seems to have been so panic striken by the defeat of his general; instead of having furnished occasion (as had been fondly anticipated by our countrymen at Philadelphia,) for bonfires and illuminations, as to have forgotten all thoughts of staying the public misfortunes, by manfully breasting the storm on the frontiers. But while Col. Dunbar could go into winter-quarters at Philadelphia, in midsummer, neither the people of the frontiers nor the backwoods troops of Virginia, (who had been despised by the British general, and their officers degrad-

* Smith's Narrative.

ed below those in the royal service,) could thus dishonorably abandon their country. In proportion as the royal commanders neglected the public defence, so did the governments of the colonies redouble their exertions to maintain it. The colonial troops of Virginia were raised to about 1,200 men, though Col. Washington urged the number of 2,000.*

On the 14th of August, 1756, a little more than a month after the battle in which senseless prejudice had only allowed him to act as a volunteer aid to Gen. Braddock, George Washington was appointed Colonel and Commander in chief of the forces of the colony, with the high privelege of naming his field officers. This he determines to insist upon, for the public good, previous to accepting any command. Such a degree of authority was necessary to efficient service in a colony, so little used to the emergencies of war, upon an extended scale. The first use Washington made of this renewed and distinguished confidence of his native country, in his abilities and worth, was to make Adam Stephen the Lieutenant Colonel, and Andrew Lewis the major of the new regiment. This command, though principally exercised on a theater somewhat removed from the valley of the Ohio, whose settlement and conquest form the immediate subject of this work, has too intimate connections with it, to be quite omitted.

Nor was the post of commander in chief one of easy honor. at this time. but painful, in a high degree; and its perplexities trying to all his resources of temper and management. They, however, under the providence of God, bred up our heroic chief to conquer similar difficulties, on a grander scale, and to lead his countrymen to liberty and independence. The French war on the Ohio, as well as in Canada, most happily furnished a school for the preparation of the officers and soldiers of our great revolution. The wants, the insubordination, the diversity of counsel, attending the military operations of Virginia, at least, make this border war, a miniature picture of the embarrassments, which perplexed the continental service against Great Britain. Still, amid these difficulties, Col. Washington applied himself indefatigably to the defence of the extensive frontier of Virginia, assailed by the superior forces of the Indians, at every point, which presented a cabin, or a station to invite the attack of the subtle enemy. This state of things continued, until a change of ministry in the central authority in England, produced a change of counsels and officers to the great relief and joy of the British empire.

The clouds which had so long hung over her banners, were about to disperse, under the administration of the most brilliant and triumphant of British ministers of State.

In June or July, 1757, *William Pitt, the elder*, became, for

* Sparks, II. Marshall,s Washington, 1—36.

the second time, principal secretary of State.* By the following December, measures of the most vigorous and liberal character were adopted, in regard to America, and indeed all over the theater of war around the globe. There has rarely been an administration in the most popular form of government, which more signally animated the energies of any people, and which brought into greater activity their hearts and talents for the public service, than under the government of this sagacious and commanding statesman. He was eminently possessed of the high qualities, which enter into the lofty, though proud and imperious character of a British statesman of the old aristocratic school. Too liberal for a court, and not supple enough for a populace, Pitt was an illustrious instance of a British statesman, who could touch the sympathies of his countrymen, in every chord, without becoming either a republican, or an unscrupulous courtier.

Americans may well look back with delight to this brilliant period of British history. On this continent, it emblazons the exploits of our fathers, under a government then, common to them, and their British compatriots in the field. The proud triumphs over the House of Bourbon, on this side of the Atlantic, form an inheritance of fame, for both America and England. The blood and treasure of both countries were freely contributed to one great purpose of national aggrandizement ; and both deserve honor allayed, as it is, in the mind of every generous man, by the misfortunes of their gallant and most enterprising French antagonists. To this war, America must look for the source of her western empire now stretching, in the language of the old royal charters, from *sea to sea.* This is the empire which an illustrious stateman and eloquent writer† pronounced "a prize, the capabilities of which are now unfolding themselves with a grandeur and magnificence unexampled in the world; but of which, if the nominal possession had remained in either of the two princes, who were staking their kingdoms in the issue of the strife, the buffalo and the beaver, with their hunter, the Indian savage, would, at this day have been, as they then were, the only inhabitants."

On the 30th of December, 1757, the minister of Great Britain wrote circular letters to the governors of Pennsylvania and the contiguous colonies, requesting the hearty cooperation of the Provincial Assemblies with General Forbes' expedition. This was intended for the recovery of Fort Duquesne; aids of arms, ammunition, tents, and provisions were promised for the colonial troops, in the same manner, as for the British regulars, and at the king's expense. The only charge devolved on the colonies was, for levying, clothing and paying their troops. Another circumstance which illustrates the liberal and expanded policy of the Pitt Ad-

* Bentham, IV. Bancroft, IV, 275.

† Oration on La Fayette, by John Quincy Adams.

ministration was the abrogation from "colonels downwards" of the irritating distinction which had been drawn between officers serving under royal commissions, and others under provincial ones.

The defence of Virginia, (and that was the western country of that day,) assumed a new aspect, under the command of General Abercromby, who had succeeded Lord Loudon, in the chief command of the British forces in America, on the return of the latter nobleman to Great Britain. Six thousand troops were assigned to Pennsylvania, Maryland, and Virginia, as their quota of the provincial troops to be raised, in this section of the colonies. Of these Pennsylvania undertook to raise 2,700, Maryland 1,000, leaving 2,300 for the quota of Virginia. But the troops actually employed by General Forbes, were 1,200 Highlanders, 350 royal Americans, about 2,700 from Pennsylvania, 1,600 from Virginia, 200 or 300 from Maryland, and two or three companies from N. Carolina, making in all, including the wagoners, between 6 and 7,000 men.* The Assembly of Virginia, in 1757, raised £80,000 for the extraordinary expenses of the colony,† and twelve hundred and seventy men, in addition to three companies of rangers, who were employed in the southwestern frontier. Still these vigorous preparations, against an enemy that had desolated Virginia, and still more the adjacent colonies of Pennsylvania and Virginia, seemed to die away, without any effect. The army consumed the prime of the season for military operations, by advancing, contrary to the earnest remonstrances of Col. Washington,‡ urged in every quarter of influence, by a new route to Fort Duquesne. This ill judged procrastination was so dispiriting to Virginia; she was so dissatisfied by the partiality shown to a new route through Pennsylvania, in preference to the well known one, prepared and pursued by Braddock; she despaired so much of any effectual attempt on the French stronghold, at the head of the Ohio, this season, any more than during the two preceding ones; that on the 14th of September, 1757, the Assembly determined to withdraw their regiment, and station it upon their own frontier. Assurances being transmitted to the Governor of Virginia, that the expedition, which was so near her heart, would be prosecuted, the restriction or the employment of the regiment was, at an extra session in November, suspended till the 1st of January, 1758.‖ Col. Washington was now ordered by Gen. Forbes to proceed with the advance in opening the road from Raystown to Royal Hanna. Previous to this, at what time does not appear, Maj. Grant was detached with 800 men, to reconnoitre Fort Duquesne. On reaching the neighborhood of the fort, he formed a plan "to tempt the

* Spark's Washington, II, 289.
† Henning, VII, 81.
‡ Sparks, II.
‖ Henning, vol. VII, 252.

enemy into an ambuscade, and at daybreak of the 14th September, 1758, discovered himself by beating his drums."* The salute was not disregarded, and Major Grant was soon attacked by the gallant Aubry, who had lately brought a reinforcement of 400 men from the Illinois; the British party was defeated, and its commander taken prisoner. The Indians passed into the rear of the assailants, under the covert of the banks of the Monongahela and Alleghany.

The only adventure connected with this disgraceful gasconade, is the gallant defence maintained by Major Lewis, at the head of the Virginia rear guard. Though sent back two miles into the rear, hearing the fire in front, Major Lewis hastened to the assistance of his commander, leaving Capt. Bullitt with fifty men to defend the baggage. The reinforcement was, however, ineffectual. Both Grant and Lewis were taken prisoners, the whole detachment being defeated. The enemy now rushed on to consummate their vengeance upon the rear guard. Capt. Bullitt now made the most effectual preparation to meet the enemy. So gallantly was this executed, that out of eight officers, five were killed, one taken prisoner, and one wounded. Bullitt was the only officer who escaped unhurt with the residue of his party and baggage to the main army. So honorable a specimen of Col. Washington's training, (for Bullitt it seems was one of his officers) was complimented in public by Gen. Forbes. Col. Washington remarks in a letter to Gov. Fouquier, that Bullitt's behavior is a matter of great admiration.

At the camp at Loyal Hanna,† a council was held, on the 9th of November, 1758, when it was determined, as both Virginia and Washington had too well foreboded, to suspend further operations, until next season, after having consumed another five months in approaching the Ohio. Nothing but the accidental capture of three prisoners, who communicated the weakness of the French garrison, prevented the fulfillment of this prediction. The intelligence thus obtained by Washington, who commanded the advance, changed the determination of the general, and the troops were ordered "to march on, without their tents or baggage, and with only a light train of artillery."‡

On the 28th of November, 1758, the British troops reached Fort Duquesne, the source from which, for four years, had flowed streams of Indian massacre over the frontiers. This formidable stronghold of French influence over the Indians, and power in the wilderness, was now converted into one more advanced post, in the sweeping march of American population into the valley of the Ohio.

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* Bancroft, IN, 311.

† Washington Writings, II.

‡ Sparks' Wash., II, 3.

The name of this fort was most justly changed to Fort Pitt, in honor of the illustrious minister of that name, under whose inspiring auspices, this signal conquest had been made—only second to the capture of Quebec. Fort Duquesne was indeed the citadel of French power in the West, and the constant nursery of Indian hostility against the British frontiers.

The maintenance of this important post was imposed on the Virginia troops, when "they had hardly rags to cover their nakedness, and exposed to the inclemencies of the weather."* In vain Col. Washington remonstrated against this addition to the burdens of the zealous colony, to which he belonged. The general told him, that as he had no orders from the ministry, he could not station the royal troops at this fort. So great was the scarcity of provisions, that enough could not be collected for a garrison of two hundred men alone; "and these," the Colonel wrote to the Governor of Virginia, "must, without great exertions, I fear, abandon the place or perish."†

Less than a century ago, this was the destitution of a region, which now, by the united auspices of freedom and intelligence, under the providence of God, is an overflowing granary of provisions, and one great school of the arts.

We have now reached an era in the history of the Ohio Valley—the occupation of Fort Pitt by the British. It may be considered the first great advance post in the conquest of the valley; here, for a series of years, the migratory hordes which pressed over the deeper West, drew breath, and recruited their strength for more distant and perilous movements into the West.

A succession of brilliant victories from Ticonderoga and Quebec to Fort Duquesne, compelled the French, after nine years most active and military management of their enormous disparity of population, and of domestic means of warfare, to surrender all the fruits of national enterprize, for nearly a century and a half, to the British arms and those of our own countrymen. The participation of the British colonists, and particularly those who lived on the northern frontier, in the memorable expulsion of the French from Canada, was most material. Not only their blood flowed freely in the different expeditions which ended in the capture of the proud castles of St. Louis and the Moro before Quebec and Havanna; but their knowledge, the domestic resources of men and provisions, and above all their experience in Indian fighting, rendered incalculable service to the British arms in effecting these exploits. The colony of Virginia alone raised in the course of this war, from February, 1754, to May, 1760, the sum of £233,000 currency, it is supposed; and from the same time to November, 1762, she maintained 13,470 men. Her force in the field varied from 1 to 2,000. Nor was the British Parliament unmindful of these zeal-

* Spark's Washington, II, 325.
† Idem.

ous advances of the "Ancient Colony and Dominion of Virginia;" nor of the efforts of her sister colonies.

In the energetic and patriotic exertions which resulted so honorably to the British name, the colonies of New England moved proudly in the van; the spirit of their Puritan ancestors, the compatriots of Hampdon and Milton and Cromwell, as ever since, animated them to be foremost in the noble race of life. The British Parliament, in testimony of their sense of the colonial measures, in 1757, voted £50,000 sterling "for the use of his majesty's subjects in the several provinces of North and South Virginia;" and in 1758, the same body granted £200,000 sterling, "to recompense the respective provinces in North America, for the expenses incurred by them in levying, clothing and pay of the troops raised by the same; according as the active vigor and strenuous efforts of the respective provinces shall be thought by his Majesty to merit." Of these two sums, the king assigned £52,814 to Virginia as her proportion; still leaving her own expenditure during the war without relief from the British treasury, $517,213.* Yet notwithstanding the cheering prospects that might have been anticipated by the British colonies in North America, from the peace, which had been concluded, between the great belligerents, France and Great Britain, on the 10th February, 1763; still, it had little effect upon the hostilities of the Indians, who had been engaged in the war against the latter. These never admitted any transfer of *their* rights or territory, by any acts either of war or of peace, between Europeans, whether allies or enemies. They very justly maintained, as they continued to do, in their latest negotiations with our countrymen down to the treaties of 1815, at the close of the second war between Great Britain and the United States, that they were bound by their own acts only, and not by the treaties made by the white claimants of the lands which they occupied. This spirit of independent nationality was systematically displayed and exercised by the Six Nations in their long negotiations and wars with both the French and the English. They were indeed the only well defined confederacy among the aborigines of North Amesica; and they presented, in consequence of it, a more formidable front to all their enemies, than any other native tribes. Their history shows, and all the early traditions confirm it, that they exerted a most potent influence over the Europeans, as well as upon their own neighbors. The spirit of confederacy among the Indians against the whites seems to have originated with the Six Nations, encouraged, no doubt, by their own power and success; and thus they may have impressed it upon the other tribes. It entered most deeply into the native counsels, after the revolutionary war; and led to the embassyof the celebrated Brant (or Thayendanegea, in his native tongue,) to London, in

* Henning, VI, 372.

1776. An extensive combination of the north-western Indians, partly excited by ancient French influence, and partly provoked by British neglect, and the aggressions of the British colonies, took place. This combination was formed under the leading influence of Pontiac (or Pondiac, as he is called by Col. Croghan). It seems to have been principally aimed at the English, who had succeeded the French, by occupying the military posts in the western country, at Fort Pitt, Detroit, Presqu' Isle, Le Boeuf and Michillimackinac.* Neither the English, nor ourselves, have possessed the tact and management over the native savages, which the French have so repeatedly shown over these wily and ferocious people. We, if not the British also, want too much land—we are too eager to convert the forest into the farm, ever to be friends with tribes of hunters, otherwise than by superior power, and fear of its exercise over themselves. This inviting ground has been so well and thoroughly trod by the accomplished author just mentioned, that the present writer will only refer to the results of this great and remarkable combination.

This outbreak seems to have been a continuation of the old French war with the English, which had been only lulled for a time by the occupation rather than the capture of Fort Duquesne by Gen. Forbes, in 1758, and Detroit in 1760, by Major Rogers. The hostile temper of the Indians broke forth most violently from the head of the lakes Michigan and Huron to the forts at Niagara, forts Pitt and Ligonier. The intermediate posts at Presq'Isle, Venango and Le Boeuf, including Michillimackinack, were all captured, and most of their garrisons put to death with unexceeded barbarity and treachery. Never did it appear more likely that the native tribes would repossess the western country. Detroit, Forts Pitt, Ligonier and Niagara alone escaped their destructive fury. Fort Pitt, which properly comes within the plan of this work, was reduced to said straits for provisions. But the hard and well fought battle at Bushy Run, on the 5th August, 1763, saved it.† There an obstinate engagement took place, which continued for two days, when the enemy being defeated and driven to a retreat, enabled Col. Bouquet to enter the fort with supplies of provisions conveyed on pack-horses. This seems to have dealt the finishing blow, in that quarter, to a confederacy of the native tribes unexceeded for its subtilty and efficiency, by any combination known to our countrymen. It may be well to remark, on this occasion, that, at this eventful crisis, Pittsburgh was distant two hundred miles from the settlements of Pennsylvania.

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* This remarkable transaction, or series of transactions, has been most ably and faithfully narrated by Francis Parkman, in his History of the Conspiracy of Pontiac. I can not resist the opportunity of again inviting the reader's attention to this most interesting work, the ablest, in my judgment, which has appeared on this subject of our colonial history.

† History of Pittsburgh, by Craig. Pittsburgh, 1851. P. 91.

THE PLAINS,

By FRANCOIS DES MONTAIGNES, of St. Louis.

CHAPTER EIGHTH.

Wherein the insects are collected and classified, and the explorers shoot for old clothes on the Anniversary of the Independence of the United States of America.

> "If you would take the pains but to examine the wars of Pompey the Great, you shall find, I warrant you, that there is no tiddle-taddle or pibble-pabble in Pompey's camp; I warrant you, you shall find the ceremonies of the wars and the cares of it, and the forms of it, and the modesty of it to be otherwise."—CAPTAIN FLUELLAN.

It is mentioned somewhere, that Dr. Cotton Matther of venerated memory, in order to escape the calamity of tedious visits, wrote over the door of his study in large letters "BE SHORT," a pithy piece of advice, which journalists, and even doctors themselves, would do well to bear in mind during their visits either to readers or *patience.*

A prosy, monotonous harangue, of an hour's duration, which could have been readily condensed into one occupying but half the time, without serious damage to the subject, is seldom considered a masterpiece by the hearer; and though he may feel a lively interest in the discussion, he awaits the announcement of a conclusion with feelings similar to those of the long confined prisoner, listening to the turn of the key, and the creaking of the bolts, which shut him from the bright world without.

With an eye, therefore, to the comfort of the obliging reader, these short chapters or memoranda have been carefully compiled, and if a stray one now and then overreach the average, and put him sound asleep, he may, as soon as he concludes his nap, consider the chapter concluded likewise, and attribute its unseasonable length either to a forgetfulness of Father Matther's maxim, on the part of Francois, or to the scarcity of musquitoes, gallinippers and other troublesome animals in the particular region of country over which the great mule-and-pack-saddle-expedition happens at the time to be taking its devious way.

Musquitoes and rats have ever been foes to literature, and though the latter hold themselves aloof from society, as all bookworms do, and restrict their diet to manuscript alone with an occasional crumb, the former fill the summer air in noisy thousands; forming great orchestras and bands, philharmonic and calithumpian, and with their countless polkas, mazurkas, rondos, quadrilles, schottische and celarius upon jewsharp, flute, drum, bugle, fiddle, fife, trombone and bones, from G, in the ledger below the ophoclide, to F, in the ledger branches of the cottonwoods, so annoy and worry the unfortunate traveller, that he will readily eschew the romantic camp-fire, and the light of the silver moon, for the more retired tent, and the deep folds of his protecting blanket.

Most of the little forks and creeks, crossed by the Spanish trail between Council Grove and the Arkansas, are, as I have stated, fringed with little copses and groves, of weeds, willows and cottonwoods; and these very little thickets or halting spots form but so many *watering places*, *roosts* as it were, like those of the wild pigeon described by Audubon, or those famous ones of the *raven* on the *False Ouachita*, to be hereafter described by Francois himself, famous and dangerous *ambuscades*, whence, when evening comes apace, and the wearied train is halted, the mules turned loose, the camp-fires blazing, and the wayfarers recount around it the events of the day and the hopes of the morrow, countless legions in armies, regiments, squadrons and squads, companies, battalions and sections, music to match, and armed with *Bills*, come on like the myriads of Xerxes, or the Tartars of Genghis Khan, ready to destroy and to exterminate; issuing from their numerous retreats and dens like the savages at Braddock's defeat, and yelling in concert to intimidate the enemy, as did the barbarians of old, who frightened their enemies into submission with their yells, now advancing in line of battle, singing the marseillaise, then pitching into a fellow by the dozen; now coming on in couples and trios like the Horatii or Curiatii for the duello; then one at a time with a voice deep as a cistern, a fellow who thrusts a bill into your face, and then stabs you in the back, pirouetting and gasconading around you, until he steals the last drop; then another deep in your ear like a bassoon, who amuses you with an endless serenade on some monotonous instrument of the sort, which you attempt in vain to demolish at the imminent risk of your head; and so on. The musquitoes and gallinippers of the Santa Fe route are famous, and Francois found them to be so. At the Big Bend of the Arkansas, for instance, the poor fellow endeavored to escape their persecutions by throwing himself into the river. The water was not deep enough to drown; the bloodthirsty creditors identified the body, and run him into his mackinaw blanket, within the sweltering folds of which the unfortunate explorer puffed his pipe, and thought of the Black Hole of Calcutta.

> "Be not afraid, the isle is full of noises,
> Sounds and sweet airs, that give delight and hurt not,
> Sometimes a thousand twanging instruments
> Will hum about mine ears, and sometimes voices,
> That, if I then had waked after long sleep,
> Would make me sleep again."

On Cow Creek, I think it was, one of the hunters shot a deer, just at the close of day, and though a stout and bold fellow, one dash into the thicket for his game was sufficient. Millions of tiny foes were in ambush for him, and he was glad to escape without his prey but with a sound hide.

The Big Bend of the Arkansas seems to be a grand concentrating point for the insect tribes in general, as well as for the Indians, and it is here that the traveller can form the best conception

of their variously estimated census. Our government sends out agents and commissioners to hold councils, treaties and *talks* with the Comanches, Kiowas, Arapahoes and other barbarians of those plains, and appropriates thousands of dollars, and tons of merchandise, to scatter among them, as rewards for the sealps they have taken, and the injury they have done, as well as inducements to the commission of additional outrage and murder. How many lone travellers have been murdered upon these wastes? How many trading caravans and travelling companies have been robbed and insulted? How many of Uncle Samuel's males and horses have been *stampadoed* by these very barbarians, to whom the simple hearted old man now donates more blankets and tobacco than would clothe and feed every poor-house in the Union?

The mosquitoes and gallinippers, however, persist in their depredations, and will doubtless *continue* to do so until government recognises their claims also, and negotiates for their removal.

On the evening of the 3d of July, we met a train of fourteen wagons laden with robes and furs, from Bent's Fort, and destined for the States. Crossing a small creek of tolerable water, we camped on the hill beyond, among good grass and with plenty of wood. Towards dusk, one of the fine Arab steeds, attached to the expedition, became frightened at something, and made the circuit of camp several times with lightning velocity, having a long rope and a sharp iron picket attached, which rendered his charge a formidable one to stand. He was a valuable horse, for he had doubtless cost Uncle Samuel a round sum, and luckily he was arrested before he injured himself in his headlong and dangerous career.

The following morning was the 4th of July, the great anniversary of our independence, of which we were duly informed by a discharge of fire-arms at daybreak by several of the patriotic Canadians, who were thus saluting the captain's tent, à *la mode, avec fusil et pistolet*, and were rewarded for their zeal by the appearance of that gentleman himself, *in propria persona*, and the subsequent distribution of a small quantity of fire-water among them, served out by way of "*largesse*," after the manner of the ancient barons and knights, who scattered small coin among the plebeians, after a successful tilt or tournament, just as we can readily imagine Brian de Bois Guilbert or Don Alonzo de Muchacho to have done, in the days of chivalry, when small coin was more plentiful, than in this age of brass and brandy.

The "*largesse*" produced an instantaneous and magical effect upon the slumbering patriotism upon the packsaddle expedition, and brought forth in short order all the dormant gunpowder propensities therein concentrated. It was officially announced, that the company would remain encamped during the day, and amuse themselves by shooting at a mark for brandy and wa——, no not water but *clothes*.

Now the intimate connexion of brandy, gunpowder and independence is well enough substantiated, but as to what *old clothes* has to do with either of these, we feel at an utter loss to explain. However, it was announced on this 4th of July, that the independent explorers would shoot for brandy and clothes.

There was no disputing the fact, that there were several, who stood in greater need of the latter, though they might have preferred the "pizen, on the present occasion, as tending more to the comfort of the inner man, yet there were several who, if the choice had been left to them, would not have hesitated a moment between the two luxuries, thus put up as a prize to the skillful, but would have decided instanter in favor of the "critter."

These articles, together with a few knicknacks, such as combs, comforts, handkerchiefs and shoes, were divided into several parcels, and each parcel put up as a prize for the rival marksmanship of two messes, to be lost or won, according to the degree of skill displayed on this momentous occasion. Several hours were thus passed in the most agreeable manner; the men were lively, the shooting was good, and the struggle hard. We had no drums but the beating of our own anxious hearts, as we poised the heavy rifle; no banners save the clouds above, and the one which floated from the tent-pole of the marquée, and no bright eyes to encourage us save those of the captain, which sparkled like small Koh-i-nors, as he glanced from one successful rifleman of his troop to another. Victory finally declared in favor of our opponents, mess no. 7, who bore away the clothing, whilst we came in in good time on the last heat, and won the brandy by a staggering ball. Whilst the former busied themselves in examining the quality and value of the various items of which their prize was composed, the latter, to which Francois happened to be appended, being the fortunate possessors of the *pizen*, confined their attentions to that single article accordingly; the quality of which seemed from the attention paid it, to be sufficiently appreciated by all. Mess no. 8 happened curiously enough to be a drinking mess, and it was not strange, that before noon, doubts began to rise, as to whether the brandy would hold out under the repeated attacks made upon it. It was therefore stowed away in a camp-kettle, and placed in a remote portion of the tent, to await further action. Mess no. 7, however, having by this time become satisfied with the examination of the dry goods, began to feel the want of a full assortment, and dispatched their most eloquent member, as a committee on groceries, to request the *loan* of a little brandy; a modest request to be sure, and a very successful one; for it was immediately granted, and the brandy in the camp-kettle handed over to the tender mercies of the committee, by the only one of mess no. 8, who happened to be in at the time, and to be likewise most unconciously green. Away went the kettle of *pizen*—won, *loaned*—*lost* forever.

O tempora! O temperantia!

As drinking now became the order of the day, the fun grew "fast and furious," like Tom O'Shanter's frolic, until the shades of night began to gather, and the sun went down, upon the little camp of the packsaddle expedition, leaving it in a mixed condition of gloom, patriotism, pizen and old clothes.

Summer Retreats.

Nature is beautiful. Hills and valleys, creeks and rivers, woods and prairies are invested with perpetual charms. The Maker of Heaven and Earth reigns in the solitude. There man may live in harmony with Him. But in the din and tumult of cities, in the noise and confusion of the multitude, the spirit of discord haunts the weary soul with restless care and anxiety. The country is an antidote to the bane of the city. The sad ravages made on physical, mental and moral health by the elements of undue excitability engendered in a densely populated place, are often and most effectually remedied by a temporary retirement from the scene of strife and contagion. The people of the cities of the Mississippi valley seem moved in the summer season by a blind impulse to obey this law of nature, but though moved to obey it in the beginning, they violate it in the end.

The springs and watering places of the East have for years been their principal resorts. At first they were doubtless healthful and renovating, because quietude and purity could then be experienced there. But latterly those scenes have become changed. Those once peaceful and refreshing spots, are now-a-years generally left with weariness and disgust. They are now turned into precocious and unnatural cities, and the elements of undue excitability engendered in a densely populated place, the strife and contagion of vanity, dissipation and vexation of spirit are there pre-eminently developed. Those springs have become sinks, those watering places pools of pestilential vapor. Physical, mental and moral health, all suffer at these haunts. Finance also suffers there. And at this day when money, health and refinement are highly if not equally prized, it seems but natural that some course should be devised by which all these possessions might be improved at once.

The County of St. Louis abounds with varied solitudes, with scenes of charming beauty and even of bold sublimity, with springs of medicinal waters, and highlands of refreshing airs. The environs of Boston are, by nature, far inferior to the region through and near which the Pacific railroad runs. Grace and grandeur are seen on either hand along the banks of the Meramec. The sea-green tint and gentle movement of the river, and the silver-grey and rugged heights of its rocky border, inspire the observer with love and reverence.

On the highlands, between the Meramec and the Missouri, the Melrose tract is located. Here we are happy to learn that summer retreats and country residences are projected. Between Melrose and Kirkwood, which has arisen to a high pecuniary eminence, flows the large Sulphur Spring of the Meramec. Here on these highlands of the County of St. Louis might retreats be made where health and wealth may be both improved, and where, embellishments of art being added to the charms of nature, the people of the South and West might be retained, and even the people of the East be attracted for pleasure as well as profit.

LITERARY NOTICES.

Hunt's Merchants' Magazine.—The last No. of the 28th vol. of this work has arrived, filled as usual with historical and suggestive articles which although peculiarly appropriate to the work, must also render service and satisfaction to every liberal-minded gentleman. Our whole country should be proud of its mercantile literature, of the substantial basis of its character, and of the christianizing tendency of its operations. We find in the present number of this Magazine, besides various other instructive and interesting articles, *A Sermon on Commerce*—an historical, anayltic and eloquent treatise—from the pen of the Rev. J. T. Hendrick, of Clarksville, Tenn. An accurate portrait of T. P. Shaffner, Esq., of Ky., President of the St. Louis and New Orleans Telegraph Co., executed on steel, embellishes the work. As a new volume commences next month, this is a desirable time to send subscriptions to its admirable conductor, Freeman Hunt, No. 142, Fulton street, New York. Price $5.00 per annum.

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THE

WESTERN JOURNAL

and Civilian.

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ARTICLE I.

Manufacturing Associations and Industrial Fairs.

Convinced by long observation that manufactures—the products of machinery and of the handicraftsman—are essential elements of national wealth, we assigned to that branch of industry a leading department in the Western Journal, at the commencement of its publication. But we have since learned a fact, which we had not then fully considered, that few individuals are induced to enter upon untried industrial pursuits by the arguments or opinions of the public press.

The application of labor and capital to purposes which insure a reasonable subsistence and profit is a vital point in individual economy, and it requires more than an ordinary degree of courage for one to abandon the occupation to which he has been accustomed, and risk his fortunes upon the results of a pursuit for which he is not qualified, by either instruction or practice. Hence, the opinion of the public press, so potent in respect to other subjects, exerts but little influence upon the character of the occupations pursued by a people.

In view of these considerations we have, without discarding the desire to promote the growth of manufactures in the West, discontinued the production of elaborate arguments, in proof of the pecuniary and social benefits derivable from an enlargement of this branch of industry. Practical men require facts merely, and it is natural that in matters relating to their vocation they should reason for themselves, and be governed by their own conclusions. The degree of success, which attends the production of every commodity, depends, in a great measure, upon certain small details

and a combination of apparently slight causes which are generally overlooked or not understood by public writers, and can only be correctly appreciated by one conversant with their practical effects. Hence, the opinions of experienced and observing individuals are entitled to more consideration, in respect to matters relating to the business in which they are engaged, than all the theories and speculations of the political economist and statesman. And, therefore, our chief object in producing the present article, is to bring the observation and experience of practical men to bear upon the subject of manufactures in the Western States. We desire to promote the public prosperity by means calculated to improve the business and social condition of those engaged in manufacturing; and as there must be a *place* as well as a *time* for the commencement of every work, we propose to address the citizens, and especially the manufacturers and artizans of St. Louis, for the purpose of calling their attention to the means of advancing the interests of this great department of industry.

Almost every branch of manufactures carried on in the United States, is represented in this city. A few have become well established, and occupy a position which commands the patronage of the country; but much the greater number are of recent date, laboring under all the disadvantages incident to a new location, and struggling unaided to obtain a foothold in a community whose prosperity depends, in a great degree, upon their success. It is vain to imagine that commerce alone can build up and sustain large cities in the interior of the United States. Here, the magnitude of cities must be determined, chiefly, by their capacity to produce—commerce is but a secondary element in the development of their growth. And it may be safely affirmed, that the future value of real estate in St. Louis depends much more upon the building up of manufactures, than upon any commercial advantages which can be gained by opening new avenues of trade. It is the nature of commerce to seek new channels, and its current is frequently changed by causes far beyond the control of those residing at a particular locality. Manufactures are more permanent in their nature. They cannot be transferred from one place to another without a loss of the principal part of the capital invested in their erection; and hence, when once established at favorable localities, they remain permanent sources of wealth, sup-

plying commerce with its commodities, and compelling its currents to flow in the direction of their location.

St. Louis possesses all the physical elements of a great manufacturing city, and when her railroad system shall have been completed, it will, in connection with the Mississippi and its tributaries, give her the control of more extensive facilities for receiving raw material and distributing fabrics, than any other city on the continent can ever command. But in this age of progress nothing is more dangerous to the prosperity of cities, than a reliance on natural advantages. It is true, these constitute the vantage-ground against competitors in the beginning ; but of themselves they are no protection against the social combinations and indomitable enterprise which distinguish the present generation. The vantage-ground now occupied by St. Louis must be defended, strengthened and guarded continually, or, in time, her resources will be cut off and divided amongst those who act more nearly in accordance with the spirit of the age.

Nor is St. Louis deficient in social and intellectual elements ; but, for the want of proper combinations, these have not been brought to bear with their full force upon her manufacturing interests. Here manufacturers, and more especially the handicraftsmen, come from almost every part of the civilized world ; they arrive here strangers to the resources of the country as well as to the manners and customs of the people; and being destitute of personal friends to whom they can look for countenance and advice, they labor under disadvantages sufficient to embarrass the most intelligent and courageous minds. From these causes, many are doubtless deterred from locating in this city, while those who come are compelled to struggle against adverse circumstances for years, perhaps, before they can make their business profitable, or their social relations agreeable. These are public as well as private evils, and should not be allowed to exist in an intelligent and enterprising community, if a remedy can be devised to ameliorate their effects.

The most obvious remedy for this state of things is the formation of a manufacturing society: an association embracing the entire producing interest of the city, from the seamstress to the manufacturer of iron and sugar. Organize this association upon principles comprehensive and liberal, and appoint executive officers

to be paid reasonable salaries for carrying out its objects. Let a census be taken annually of the manufacturers, operatives and apprentices, embracing the number of establishments, amount of capital invested, value of products, and such other facts relating to the economy of manufacturing as may be deemed useful; and, moreover, let a full report be made upon the state of manufactures semi-annually, or at least once a year. By these reports, the people throughout the entire commercial range of St. Louis will be advised of the nature of the articles manufactured here, and be induced to look to this point for their supplies, instead of going to other markets. These reports would also exhibit the nature and quantity of raw material, fuel and other appliances required by the manufacturers, and stimulate the inhabitants of the rural districts to bring forward many commodities, which are now obtained with difficulty at high prices, while, for the want of such information, they remain useless to the owner.

In connexion with other objects of a manufacturing association it should provide for an annual exhibition of specimens of every kind of wares produced by the manufacturers of this city. Public exhibitions have become an important element in the improvements of the age: in a business view they are to communities what advertising in newspapers is to individuals. But there are other and higher objects to be attained by public fairs and exhibitions: they are calculated to excite a spirit of laudable emulation, and call into action the genius and mental powers of the artizan, elevating his character as a man, and making him more useful to society. They afford to the new beginner an opportunity of making himself and his wares known to the community, and relieve him from the necessity of laboring for years to establish the merit of his articles. Here the modest and conscientious tradesman has an opportunity to compare the merits of his work with the mere pretender who forces his wares upon the community by dint of puffing and other popularizing practices. They afford a pleasing respite at stated seasons from the daily toils of the shop and counting-room, and tend to socialize the feelings and sentiments of those engaged in the various branches of industry. And, besides, the catalogues of articles exhibited being published to the world, the consumer of manufactured articles as well as the dealer would, by this means, be advised of the place where his wants can be supplied.

At present, St. Louis is not known abroad as a manufacturing city, and not one in a thousand of her own citizens has a just conception of the variety and extent of commodities produced here. Were specimens of all her varied products exhibited at one view, it would astonish even those best acquainted with the business of the city, and do more to impress upon the minds of the people of the United States a just sense of the future greatness of St. Louis, than all the works of public improvement that have been projected by her citizens. Such an exhibition would convince well judging men that the growth of St. Louis is neither accidental nor precocious, but based chiefly upon the productive labor and skill of her citizens. And taking into view the brief period in which these results have been produced , and looking to the resources which remain undeveloped in the vast region embraced within the commercial range of the city, intelligent minds would arrive at the natural conclusion that no reasonable bounds could be assigned to its growth.

Public opinion is power, and in one sense it is wealth also; it is potential in building up or pulling down the fortunes of men and cities; it enhances or depresses the money value of property, and as a consequence, in many instances, affects even its productiveness.

Hence the display of the advantages and brilliant prosperity of towns and cities, which is daily found in the public prints in every part of the Union. And though this method of manufacturing public opinion has grown somewhat stale, yet puffing is generally regarded as profitable, and is doubtless, in some instances, a paying business for a time. But it is a species of falsehood and deception—designed to entrap the ignorant and credulous—which, like all dishonest practices, brings contempt upon those who resort it as a means of promoting their individual interests at the expense of the community.

St. Louis requires no puffing, no disingenious devices to attract immigration, but her citizens will be unjust to themselves, if they neglect to make known the true nature and extent of their resources. The city in connection with the state and citizens in general, has entered upon an extensive system of public improvement which will require a liberal use of her credit; and it must be obvious to the most obtuse intellect, that her credit abroad must

be based upon and modified by the nature and extent of her resources at home. And what stronger evidence could we offer to capitalists in support of our claims to be placed on the list of their most favored customers, than a schedule containing a long list of manufactures in a prosperous condition?

Nor can we expect to exert the amount of influence to which we are entitled in the councils of the nation, without making known the nature of our pursuits and the extent of our products.

We are fully aware that the demands upon the time and means of the citizens of St. Louis are now very great, and many no doubt feel disinclined to assume additional burthens; but this is no age of repose, there are no breathing points where individuals or communities may stop by the way side, and refresh themselves for a season, without losing their places in the ranks and falling behind in the rapid march of civilization. In laying the foundation of a comprehensive commercial system, we have also provided the external facilities necessary for the building up and support of manufactures, and it will require but little pecuniary assistance to place this great interest upon a solid basis, and give an impulse to its growth and development that will carry it beyond the influence of ordinary contingencies. We propose to attain this end chiefly by social means. We aim by a social combination to give the producers their just weight and moral influence in the community to be exerted for the common welfare. If organized with judgement, and sustained by the proper spirit, it will be the means of establishing not only the manufacturing but the commercial supremacy of St. Louis over all other cities of this great valley. The plan we propose addresses itself with equal force to every class of our citizens. By placing all the producing classes upon a better footing, operatives from other States will be attracted to this point, and the owners of machinery as well as the handicraftsman will be better supplied with labor, and consequently their operations will be more certain and profitable. But none will be more benefitted by the growth of manufactures than the owners of real estate, and they, of all others as a class, should take the most active interest in organizing and sustaining a manufacturing association. It is true, they can not be expected to take the initiatory step, that must be done by the manufacturers themselves; but we trust, they will be found prompt in supporting by their countenance, and even by more

substantial means, any well devised plan which may be adopted by the association, which we hope to see organized at an early day.

We have heard much said of a Manufacturer's or Mechanic's Fair to be held in St. Louis: but we are fully persuaded that such an exhibition would not be worth a tithe of its cost, unless as a preliminary step a well organized association composed of leading citizens shall have been formed and established, with a view to other objects, besides the exhibition of a few highly wrought specimens of art. Exhibitions, though in many respects highly important, are of little value when gotten up by individual enterprise. In such cases they are destitute of the social elements necessary to give them vitality and make them respectable in the estimation of the public.

The principal objects requiring the expenditure of money will be suitable buildings and a library; and even the erection and purchase of these might be dispensed with for a time. It is but reasonable to expect that some of the owners of large landed estates will donate to the association the ground necessary for the buildings, and that others will rejoice in the privilege of perpetuating their names by liberal donations of books to the institution. The next considerable source of expense will arise from the accidents and unavoidable misfortunes which may befall the members of the association; for a provision for such objects, properly guarded, is necessary to give moral force to the institution, and establish sympathy amongst its members.

We have but imperfectly described the objects and benefits of such an association, as we believe to be necessary to the growth and future prosperity of manufactures in this city.

In confining our views within the space usually allowed to our leading articles, we have been compelled to omit the notice of many interesting topics which naturally belong to the subject, and to treat others with a brevity incompatible with their importance. But we write for intelligent minds, who doubtless comprehend the subject quite as well, perhaps better than ourselves, and if we should be so fortunate as to incite some leading spirit to action, we feel persuaded that our object will be accomplished in the end.

Already some of our manufacturers, by the force of talent and industry, are taking the first rank in wealth and social influence, and could we persuade a few of these to espouse the cause which

we have endeavored to advocate in this paper, it would be an easy matter to accomplish all we have proposed. The influence of their names, and a small amount of money, compared to what they are known to donate annually to public and charitable objects, would be quite as much as the friends of manufactures in the West could reasonably require at their hands. We cannot doubt that men of so much discernment, and withal possessing generous and noble aspirations, will neglect this favorable opportunity of transmitting their names to posterity as benefactors of the age in which they lived.

Article II

From the "Railroad Journal."

The Economy of the Freight Train.

Its Construction.—The double truck, the chilled plate wheel, and, to a certain extent, the India-rubber spring, and the oil tight axle box, have built up the freight train. The truck is in universal use, except for short platform cars. The chilled plate wheel is the cheapest and strongest of any, when considered in its application to the freight train. The plate form is not only stronger than the spoke form, but insures a more even chill than the latter, as, in the spoke wheel, soft spots will appear opposite the ends of the spokes. The plate wheel does not fan the track, nor incur as much resistance from the air, and is the easiest kept clean.

The India-rubber spring is lighter, makes fewer joints, and generally gives less trouble in keeping it in repair, when compared with other springs. Lightner's axle box is very generally used for convenience, and for its great economy in oil and attendance.

The size of an eight-wheel box freight car is usually 28 feet by 8½ feet, and 6½ to 7 feet deep. The wheels are generally of 30 inches diameter. The cost of such a car, with oak frame, is generally $500 to $600. For an open platform car, otherwise the same, $520. The weight of a box car is from 12,000 to 16,000 lbs., according to the strength of its frame, axles, etc.

The "swing beam" generally used in passenger cars has not been used to any extent in freight cars, consequently the latter are more rigid upon the track. The "centre bumper," or the ar-

rangement by which the longitudinal contact of the car is made only in the axis of the train, is in universal use in this country, on all cars, and reduces the resistance of their passage around curves. Upon the Baltimore and Ohio railroad, a "continuous draw rod" is used, by which no car in a train is strained beyond the force necessary to pull its own weight. A very good brake for any eight wheel car is Steven's double brake. The wearing sides of the brake heads are faced with wood, with leather, or with wrought iron. The Erie cars have wrought iron brake shoes, which produce less friction, and are consequently less liable to injure the wheels by sliding them on the rails, and have an advantage in keeping a smooth surface for the tread of the wheel. There are but few roads which use "safety beams" under their freight cars to support the axles in case of their failure.

The adaptation of Myers' cylinder car, for all kinds of self-adjusting freight, as coal, grain, ground plaster, potatoes, lime, sand, etc., etc., should commend it to a fair trial on the part of railroad managers. The condition of coal transported by it has been reported as excellent. The only objections which may be suggested against it are, that from bringing the load directly upon the track, the former may prove too rigid, and may not, from the size of its wheels, be likely to keep its position so well upon the track as a car upon smaller wheels. But these obstacles are not stated as necessarily existing. No invention is so useful but that an objection might have been predicted against it, and the success of this car, as of other important improvements, must be decided in its practical operation. Its principle is certainly the perfection of mechanical simplicity.

The Capacity and Operation of the Freight Train.—The usual load of an eight-wheel freight car is eight tons. Ten tons of live stock, or eleven tons of flour are sometimes carried. There are but few roads, however, where the general tonnage of the trade does not settle in one direction, and hence a large proportion of empty cars must be carried one way. The load of potatoes, live stock or grain—the lumber or stone—which goes *down* to be exchanged for its value in dry goods, groceries, or hardware, *up*, occupies much the greater space. Upon the Concord railroad, in New Hampshire, two-thirds of all the freight cars which went over it in 1852, from the upper railroads to Boston, returned empty. On the Reading road, of course all the coal cars return to the mines empty. Consequently the average weight of freight per train cannot equal the weight of the cars in which it is carried. The average weight of freight carried per train, each way, on the Erie road for 1852, was 73 tons, requiring a weight of cars averaging 149 tons, or but one-third of the whole weight of the train being the weight of its load. On the Northern railroad 74 tons were carried with a weight of 150 tons of cars, engine and tender, or 115 tons

of cars. On the line of the Albany and Buffalo railroad, for the same time, the average of freight per train was 63.35 tons; the cars alone weighing 156 tons per train. This was the average of the four roads from Schenectady to Buffalo.

The length of the freight train is limited commonly by the power of the engine to draw it. Upon the Erie road 13 loaded eight-wheel cars is the full load for engines of 33 tons weight running from Piermont to Port Jervis, while 30 of the same cars are a common load over the Delaware Division. The difference comes from the grades on the Eastern division exceeding those of the other division. The most advantageous and economical application of locomotive power occurs at a speed of 10 or 12 miles per hour; and freight engines should be designed for that speed, by giving them a long stroke of piston or a small wheel. We shall discuss the freight engine hereafter. There is generally no necessity for a high rate of speed for freight trains. An article of regular and constant delivery, imperishable in its nature, can be carried at a speed consistent with an economical transportation without embarassing the trade. There are very many objections to high speeds;—the greater force of the blows upon the track, the increased strain on curves, the evident diminution in the effect of the power, are all opposed to a high rate of speed, where no necessity exists for its maintenance. Where a train of passengers, weighing 75 tons is driven 30 miles per hour, a freight train weighing 300 tons should not go over nine or ten miles per hour. This particular policy is adapted to the heavy through freight of great roads, especially such as have to be operated through the night, whereby a train can make its proper time.

The general weight of the Reading railroad coal trains is 700 tons of 2000 lbs. These are of ninety cars, weighing 5600 lbs. each, and loaded with 10,000 lbs. each.

There are an engineer, fireman and conductor to every freight train, besides one brakeman for every five to ten cars. On the Ogdensburg railroad one brakeman is employed for every five cars.

As to the loading of trains, the heaviest freight will of course be placed at the bottom, and be uniformly distributed. All self-adjusting freight, as coal, grain, sand, etc., will be loaded and unloaded by the help of spouts or scoots. Live stock, with proper platforms, load themselves. Long lumber is generally loaded,

each end, upon a short platform car, which are connected by a long shackle bar. The advantage of long lines in respect of the less handling of freight, tends to reduce the expense of transportation. The Erie road enjoys a favorable position in this respect, and all of its through freight, running from pier to pier, a distance of 446 miles, receiving and delivering from vessels at each end; and doing a business for branch roads in which there is but one transfer of freight (either a reception or delivery), reduces this item to its least expense.

COST OF TRANSPORTATION OF FREIGHT.

The item of the expense of moving one ton one mile has never been so well ascertained as since the New York State laws compelled the apportionment of the expenses of railroads to the distinct heads of passenger and freight transportation. From the report for 1852, made up by the State Engineer, Wm. J. McAlpine, Esq., we are enabled to make up a statement of this expense from the business of the three great freight lines of N. Y., the Erie, the Central, and the Northern. We have calculated these statements, in each case, from the reports returned by the different roads, and have not relied at all upon the *tables* appended to the reports, many of which contain very serious errors, typographical or otherwise.

The first column gives the expenses per ton of freight for one hundred miles run upon the Erie road; the second gives the cost per train of 73 tons for the same distance. The next seven columns give the expenses and averages for the lines composing the Central line. The last two columns are for the Northern road. The items of the Albany and Schenectady road are not fully stated, and the line is not entirely a favorable one for comparison. The averages are taken for the 4 roads from Schenectady to Buffalo, with the single exception of labor of loading and unloading, which should, of course, be averaged between all the roads—the Albany end of the road doing the most of this work:—

EXPENSE FOR TRANSPORTATION OF FRFIGHT.

	Erie R. R. per ton for 100 miles.	De.p.train of 73 tons 100 miles— 149 ton c's.	Albany and Schenectady. as pr. Erie R.	Utica and Schenectady.	Syracuse and Utica.	Rochester and Syracuse.	Buffalo and Rochester.	Aver. of four last roads.	Central RR 63.35 tons 100 miles, 156ton c's.	Northern R. R. one ton per 100 miles.	N. R. R. 74 tons p. 100 miles with 115ton c's.
Cost of maintaining way.....	$0.167	12.19	.....	0.175	0.337	0.263	0.247	0.256	$16.22	0.209	$15.46
Repairs of Locomotives.....	0.103	7.52	.....	0.062	0.156	0.112	0.102	0.108	6.84	0.091	6.74
do. Freight Cars.....	0.071	5.18	.....	0.087	0.122	0.182	0.121	0.128	8.18	0.076	5.62
Incidental charges, repairs of machinery, watchmen, &c...	0.250	1.81	.....	0.030	0.030	0.025	0.016	0.025	1.58	0.053	3.92
Office expenses, Agents, &c...	0.062	4.53	.....	0.036	0.134	0.061	0.106	0.084	5.32	0.150	11.10
Loading & unlod'g, porters, &c.	0.105	7.66	1.100	0.046	0.055	0.055	0.175	0.286*	18.12*	0.157	11.62
Wood and water stations.....	0.003	.22	0.018	0.012	0.019	0.023	0.026	0.020	1.27	0.014	1.04
Conductors.....	0.091	6.64	.....	0.029	0.032	0.047	0.053	0.040	2.53	0.087	6.44
Engineers.....	0.083	6.06	0.190	0.051	0.078	0.073	0.120	0.081	5.13	0.052	3.85
Fuel and cost of preparing.....	0.190	13.87	0.360	0.200	0.260	0.180	0.210	0.210	13.30	0.083	6.14
Oil for Engines.....	0.030	2.19	0,036	0.021	0.013	0.057	0.026	0.029	1.84	0.011	.81
Oil for Cars.....	0.022	1.61	0.022	0.035	0.026	0.011	0.026	0.025	1.58	0.014	1.04
Damages to persons and prop.	0.037	2.70	0.023	0.008	0.053	0.058	0.045	0.041	2.60	0.011	.81
Superintendence.....	0.011	.80	.....	0.015	0.028	0.006	0.014	0.049	3.10	0.046	3.41
Contingencies.....	0.011	.81	.....	0.032	0.062	0.006	0.025	0.031	1.97	0.092	6.81
Total.....	$1.011	$73.79	.....	$0.839	$1.405	$1,159	$1.312	$1.413	$89.51	$1.146	$84.81

* Average of five roads from Albany to Buffalo.

We cannot arrive so well at the cost of transportation upon the Massachusetts roads, as no apportionment of expenses is made under the laws there. It would appear in theory, and the result is confirmed by practice, in this State, that such an apportionment can be made. The freight business of a road of any importance is generally conducted separately, except the pumping of water, switching, maintaining way, superintendence, &c., and these charges should be taxed upon freight transportation in proportion to the receipts from source. Fuel must be measured separately for each class of trains. But the expense for stations, engines, cars, conductors, engineers, men for unloading, and damages, can all be easily divided upon any large road.

The last report of the Baltimore and Ohio road gives the items of expenses of freight transportation, as follows:

	Per 100 tons 1 mile.
Repairs of road, watching Bridge and pumping water...	$0.347
Repairs of engines	.104
Wood and coal	.071
Labor on do	.023
Oil and waste for engines	.036
Engineers and firemen	.097
Repairs of cars	.084
Oil for cars	.004
Conductors and Brakemen	.164
Pay of Agents and Clerks	.023
Labor in transportation department	.032
Other general expenses	.048
	.933

The following estimate is made for the expense of running a freight train upon the Reading railroad, and appears in the report of that road for 1852:

Wages of 1 Engineer	$3.00
" 1 Fireman	1.50
" 1 Conductor	1.60
" 3 Brakemen, $1.25	3.75
4 3-10 cords of wood including firing up—$4.32	18.58
Oil and Tallow for engine and tender	1.16
Oil and Grease for cars	1.39
Repairs for engine and tender 95 miles	4.89
Repairs of cars 97.1 tons at '139	13.51
Depot hands and expenses	22.49
Water used	30
Damages and renewals	3.08
Equal to 77.5 cents per ton	$75.25

This does not include maintainance of way, superintendence, repairs of machinery in shops, office and Agent's expenses, etc.

THE FREIGHT ENGINE.

The freight engine must be ultimately adapted for burning coal of the semi-bituminous description. The want of favorable feeling on the part of builders, and the fact that many of the country roads are still able to supply themselves cheaply with wood, has retarded the introduction of the coal engine, but the necessity for its general use will soon become established. The relative economy of anthracite to pine wood is stated by Mr. Nicolls, Superintendent of the Reading road, as 1 ton of 2,240 lbs. of the former to $1\frac{3}{4}$ or 2 cords of the latter. The Cumberland coal is as 1 ton to $2\frac{1}{2}$ cords. From the experiments made upon the Boston and Maine railroad, in January, 1850, upon burning coal, the result appeared as very nearly 1 ton of anthracite to 1 cord of spruce. But sufficient importance was not attached to the fact of a great loss in the coal engine from running only a few cars, and being compelled to wait much of the time out upon the track, wherein much coal was burned to no advantage. The result upon a great road, using both kinds of fuel, must determine the economy of each, and it is to Baltimore and to Philadelphia where we must look for information. The principle of the motive power on their great roads has been to combine the utmost strength, traction and adhesion for their engines. Strong and plain machinery has always been a good feature with them. There is but little "dead weight"—everything aids in the production of power, and the "huge steam tugs with sand boxes," as Senator Foote styles them in his report upon French's plan, still hold their standing as the most efficient and economical engines in the world. Baltimore and Philadelphia deserve the credit of the Freight engine of this country.

From the curves upon the Southern roads the engines have had their drivers clustered together forward of the furnace, thereby covering but a short rectangle upon the rails. The adhesion has been increased, experimentally, by increasing the number of coupled drivers, until the fact has become established that the whole weight of an engine supplies more adhesion than is ever required, except with an extremely large cylinder and small wheel. The distribution of the weight of an engine, upon 8, 10 or 12 points of the track, was a valuable idea, and belongs to the Philadelphia builders. The inside connection, with its unsafe, heavy and inaccessible parts, and its "elevated boiler," has never gained any ground in the south. We can say that the truck, the outside cylinder, the coupled drivers, the chilled plate wheel, the chilled tire, the coal engine and the heater, have been either first applied or generally developed in the States south of New York, and these

particular improvements form nearly all of the distinctive features of American motive power.

The freight engine, then, should burn semi-bituminous or bituminous coal; its weight distributed on say ten wheels, six of which may be coupled for all necessary adhesion; should have a "feed heater," (an excellent one has been invented by Mr. L. B. Tyng, of Lowell); a say 26 in stroke and 4½ feet wheels; the chilled slip tire and flanges on all the wheels. The truck to be adapted to take its load on its centre pintal. The size of the freight engine may be increased at pleasure to 30 or 33 tons weight if necessary, and this, moreover, upon a narrow track. The exact dimensions of boiler and cylinders cannot be stated to apply in all situations, but the practical standard of the Baltimore and Ohio engines will be found in our last weeks' paper, page 391. The cylinders should lie as nearly as possible in a horizontal line, without making the truck wheels too small; the parts should not be unduly heavy, and the drivers should not be combined in truck frames, as the weight of the parts is increased to an undue extent without any sensible advantage.

This general plan of a freight engine is of the kind which involves the fewest parts, the strongest and cheapest construction, and the least expense for operation and maintenance. It is *the engine* in all essential respects, which has become the standard upon the greatest freight lines of the country.

The Erie roads have made a general application of the centre bearing truck, and of flanges to all the drivers.

The freight engine, it would appear, requires distinctive features to adapt itself to its business. Common custom, in some parts of the country, has been to make an engine of the same style for freight or for passengers, with a difference only of six inches or one foot in the size of the drivers, and one-eight inch difference in the lead of the valve.

ARTICLE III.

(From Buchanan's Journal of Man.)

Consumption and Architecture.

As the season of building has been arrived, a few hints upon the construction of buildings, with reference to human health, can not fail to be of great service to those who are disposed to pay a thoughtful attention to health and the prolongation of life.

I believe that an immense amount of disease has been produced, and is still being produced, in our country, by a very common and flagrant neglect of the laws of health in the construction of our dwellings. I need not attempt to prove that human health depends largely upon the enjoyment of a fresh, uncontaminated atmosphere. It is not sufficient that the atmosphere should be merely free from any offensive substances which the chemist can detect; for the atmospheric causes of Cholera, Yellow Fever, and eruptive diseases, have not yet been satisfactorily detected; and every one knows that an atmosphere may be charged with most offensive and deleterious exhalations, which he can recognize by the sense of smell, when they are altogether inappreciable by chemical analysis.

In building our houses, we desire to place them as remote as possible from filthy exhalations and all decaying substances. But too little attention is given to the fact that the unwholesome exhalations which affect the atmosphere and become a source of endemic and epidemic diseases, are more concentrated near the surface of the earth, and that, if we wish to escape their influence, we should occupy the most elevated apartments possible. Houses of but a single story in height, in which the inhabitants sleep but two, three, or four feet above the surface of the surrounding country, must necessarily expose their occupants to the terrestrial exhalations, of whatever character they may be. Sleeping apartments on the ground floor are highly objectionable anywhere, but especially so in cities. Yet, if these are bad, underground apartments are far worse, and should never be tolerated in human habitations. Those who are driven by poverty to occupy such localities would far better occupy the poorest garret they can find, above the vapors of the street. If our population could be impressed with the importance of appropriating the highest apartments in their houses to sleeping chambers, it would have a material effect in retarding the spread of epidemics.

Dr. Rush informs us that, during the prevalence of the Yellow Fever in Philadelphia, those who occupied apartments in the third story were far less liable to attacks than those who resided lower. Any one who will pass frequently from a ground floor apartment, on a

street or alley, to the third or fourth story, will satisfy himself of the great difference in the purity or impurity of the atmosphere, in the higher and lower localities.

But while I would insist upon the importance of a lofty location for residence, and a lofty place of sleeping, there is a matter of much more importance to which I would call the attention of those who are building houses. Air, to be pure and healthy, requires continual circulation. Whenever confined upon any spot on the surface of the earth, it becomes saturated with the exhalations of the substances with which it is in contact; and, as much of these are usually of a vegetable or organic structure, their gradual decomposition, and the decomposition of their exhalations, produces a state of the air which is injurious to health. The surface of the earth is full of organic materials and remnants of vegetation; and, even where we do not at once recognize vegetable growth, minute plants producing some species of mould, are often present. It is, therefore, certain that confined air, unless it be confined by dry, vitreous, or mineral surfaces, is impure air. Not only is it noxious in consequence of the exhalations and putrefactions it contains, but also in consequence of its being deprived of the beneficent influence of the sun. That it is colder and somewhat defective in positive electricity, are not the only defects. There are peculiar qualities imparted by the solar light, which are neither calorific nor electric, but which have a powerful influence on vegetation, and upon sensitive human constitutions. Reichenbach's experiments on the *od force*, and my own experiments in the relations of the human constitution to light, prove that the most refrangible rays are of great importance to animal and vegetable life. Of this influence, confined air is deprived; hence, whenever dwellings are so constructed as to provide places where the air shall be confined in dark, cold, uncleanly situations, the best arrangements are made for the gradual production of disease. Even the effects of shade alone, where ventilation is not excluded, are known to be injurious.

The effects of a small portion of such air upon the human constitution are not so prompt and alarming as those of marsh miasma, and are, therefore, seldom noticed or referred to their proper sources. The noxious air generated in cellars, basements, and under-floor spaces, reaches the inhabitants of upper apartments in so small quantities that, instead of producing any marked and sudden process of disease, it operates rather as a steady tax upon the income of health, so uniform in its depressing effects as not to be appreciated. Yet, many an invalid who fancies himself improved by a change of air, in going to another residence, is really relieved by escaping the mouldy atmosphere which comes from beneath his own ground-floor.

Perhaps the majority of American houses are constructed, in

this respect, in defiance of the laws of health. Either a cellar is dug, or the house is one, two, or three feet above the surface of the earth. The cellar, even if it be walled and paved, is a damp, dark, mouldy place, which has scarcely any ventilation, and no sunshine. Even the best cellars, which are walled and paved, and kept free from decaying vegetables, rotten timber and other mouldy lumber, are often places which no one can enter without perceiving that he is in the midst of a damp, unwholesome, and oppressive atmosphere, the influence of which is at once depressing upon the lungs and upon the general vitality, from which one emerges into the sunlight and open air as if escaping from purgatory. How often, in passing along the streets of a crowded city, do we receive from mouldy cellars a blast of air inexpressibly offensive; and how can they who live above such cellars, daily inhaling small portions of such an atmosphere, escape its deleterious effects?

That the human race degenerates in damp, subterranean apartments, no one will doubt who observes the population of large cities; and they who live immediately over cellars must suffer the same deleterious effects, just in proportion as they inhale the cellar atmosphere. That such an atmosphere is calculated to produce Scrofula and Consumption, was shown by the experiments of a French physician, M. Coster. In several series of parallel experiments, made upon dogs, rabbits, and chickens, fed upon exactly the same diet—one set exposed to the open air and sunshine, the other confined in dark, damp, and cold places—he found that, while the former set maintained entire health, the latter, with exactly the same diet, uniformly became consumptive, tubercles being developed in their lungs. The laws of the human constitution being the same, we are authorized to affirm that the impure atmosphere which belongs to dark, damp, subterranean habitations, where ventilation is neglected, is directly productive of consumption.

The common sense of mankind has condemned cellars as a place of human residence, but, in a mitigated form, the evil still exists to an immense extent. Basement stories depressed from one to five feet below the surface of the earth, imperfectly lighted and ventilated, and having walls always more or less damp, if not mouldy, are still commonly occupied as apartments and offices, notwithstanding the strong testimony of experience against their use. In Louisville, where basements were formerly much in fashion, they are now seldom constructed. In Cincinnati, also, basement stories have generally given away to cellars. My own experience, as well as that of my friends, is very decided against their use. The late Prof. M., who occupied an office in a basement story, about two feet below the surface of the earth, with a paved area around it upon the same level, by which the walls were removed from contact with the surrounding earth, constituting the

best possible example of a basement story, eagerly removed to another location, and informed me that he would never, on any account, again occupy a basement office. Prof. N., and his brother, who occupied a basement story of the common character, as an office, found it so unwholesome (producing bronchial and pulmonary diseases,) as to compel them to build an office above ground. The intelligent Principal of our City High School, whose health has been materially undermined by severe pulmonary disease, informs me that he attributed it to his engagements in his occupation as a teacher in a low basement school-room. My own experience upon this subject was so decisive as to compel me, when occupying a residence with large basement apartments, with the usual damp walls, which had previously been occupied as an office, and for servants, to keep it entirely vacant, although a teacher was desirous to rent it for a school. I regarded the basement as a positive injury to the house, being not only a waste of space, but a source of noxious air, from which it was difficult to protect our children.

I am firmly convinced, that as places of human occupation, basements should be entirely abolished, and cellars should share the same fate. My reason for insisting upon their entire abolition, is, that although we may partially escape their evils by living above them, we can not entirely cut off the communication between our apartments and the cellars and basement beneath. The offensive air will ascend through crevices in the floor—through doors, windows, and stairways, and will infect the area about the house. Some houses are so constructed that the occupants of the lower apartments are but little better off than the inhabitants of the cellars and basements; wherever the cellar communicates with the chambers and halls above by an inside doorway, the atmosphere of the cellar will be continually ascending to the upper part of the house, and the inhabitants of the lower apartments of the house will be habitually breathing the noxious cellar atmosphere. Some years ago, when occupying one of the most spacious and delightful residences in this city, I found it in the most deplorable condition from this very cause. The entire space under the house, nearly fifty feet square, was occupied by large cellars, which had but the usual amount of cellar ventilation, the atmosphere being damp and mouldy, and the sunshine excluded. This immense reservoir of cellar atmosphere had free communication with the halls above, by an interior stairway, the door of which, when closed, did not exclude the passage of the air. The ordinary winds and changes of the weather drove the cellar atmosphere into the house, and the cellar-door being on the eastern side, the entire eastern half of the building acquired a damp and mouldy atmosphere from the cellar. A long hall, twelve feet wide, prevented the passage of the mouldiness to the western part of the building, except in

very damp weather, when the whole house seemed partially affected.

The oppressive and offensive character of this cellar exhalation, although due attention was given to cleanliness, was such that on entering the western door of the house I could instantly determine, by the atmosphere of the hall, whether the cellar door had been left open or closed.

This house—one of the oldest residences in the city—had always been occupied by persons of wealth and intelligence, whose vigorous constitutions gave no slight guarantee of health; yet a large portion of its former inhabitants either died of pulmonary diseases, or suffered severely from their attacks. The majority of two generations died of consumption, and I believe the third generation, now living, would have shared the same fate had they been confined to the same residence. My own family suffered from pulmonary derangement; one manifesting a slight tuberculous tendency, and I experienced myself the severest pulmonary attack I had ever known, although I adopted the precaution of occupying the most remote room from the source of disease. The entire disappearance of our unfavorable symptoms, since removing to a healthier residende, gave additional evidence of their source.

While I would condemn cellars and basements entirely, the common plan of building, in their absence, must be condemned also. The house being built above the surface of the earth, a space is left between the lower floor and the ground, which is even closer and darker than a cellar, and which becomes, on a smaller scale, the source of noxious emanations. Under-floor spaces should be abolished as well as cellars and basements. The plan that I have adopted with the most satisfactory success, to avoid all these evils, is the following: Let the house be built entirely above the ground; let the lower floor be built upon the surface of the earth, at least as high as the surrounding soil. If filled up with any clean material a few inches above the surrounding earth, it would be better. A proper foundation being prepared, make your first floor by a pavement of brick, laid in hydraulic cement, upon the surface of the ground. Let the same be extended into your walls, so as to cut off the walls of your house with water proof cement, from all communication with the moisture of the surrounding earth. Upon this foundation, build according to your fancy. Your lower floor will be perfectly dry—impenetrable to moisture, and to vermin; not a single animal can get a lodging in your lower story.

The dry brick floor will answer for the purpose to which lower stories are usually devoted, but a wooden floor may be laid directly upon the brick, if you prefer it; or if you wish a smoother surface, the bricks may be plastered over with hydraulic cement making a perfectly solid and smooth floor, when it has hardened. Painting

the brick floor will improve it by preventing any absorption of moisture from the air.

By adopting this plan, your house will be dry and cleanly; the atmosphere of your ground floor will be fresh and pure; you will be entirely relieved from that steady drain upon life, which is produced by basements and cellars—and if you appropriate the ground floor to purposes of store-rooms, kitchen, &c., you will find that the dry apartments thus constructed, are infinitely superior to the old basements and cellars. And if you place your sitting and sleeping rooms on the second and third floors, you will be as thoroughly exempt from local miasma as Architecture can make you. An additional advantage will be derived from the dryness of the walls—according to the theory of Sir J. Murray. Much of the miasmatic influence of unhealthy localities he ascribes to the frequent passage of currents of electricity, between the earth and the clouds. The dryer the walls of the house are made, the nearer it approaches to that insulated condition, which he considers necessary as a preventive against what has been regarded as local miasma.

If all the interior of the walls of an apartment were painted or papered and varnished so as to be incapable of imbibing moisture, it would be a valuable addition to the healthfulness of the room. Walls kept moist by leaks or otherwise, and thus subject to constant evaporation, are prolific sources of colds. Every one knows how dangerous it is to sleep in a freshly plastered apartment, or even when the walls are *apparently dry*, if they are not really and thoroughly dessicated.

Absolute dryness of walls, ceilings and floors, and a free circulation of air and light, are matters which a builder should consider essential in every apartment for human beings.

(The foregoing essay having been prepared for the New York Tribune, is a very brief presentation of the subject. Ventilation, house-warming, and similar subjects will be treated hereafter. The evils of cellars and basements may be mitigated by having an open fire-place in them, and occasionally building a fire to produce a draft up the chimney.)

ARTICLE IV.

(From the Mining Magazine.)

Geology of the Sierra Nevada.

BY PROF. JOHN B. TRASK.

To the Hon. J. R. Snyder, Chairman of the Committee on the Geology of the State of California.

The district of country lying north of the 40th degree of north latitude, much resembles, in some particulars, portions of the south; but it presents withal, stronger evidences of greater antiquity than the southern, in many of its parts; and portions of it were probably contemporaneous with the district south of 40 degrees, although there is no probability that all of that section can claim contemporaneous origin, for if it did, its formations should in some degree correspond; whereas, on examination, we find discrepancies that would seem to warrant us in referring them to another period.

A convenient way, then, would be the arrangement of the mineral district into three classifications, making in these, such subdivisions as may be necessary; and under this plan they would present themselves in the following order:—

First.—Primary, or central districts, included between latitude 38° 30′ and 40° north.

Second.—The northern district, included between 40° and 42° north.

Third.—The southern district, included between 38° 30′ and 36 north latitude.

I feel fully confident that whenever this State shall be authoritatively examined, that a similar arrangement will be made, both for convenience and elucidation.

Under this arrangement, then, I shall speak of the various districts in the order in which they occur.

FIRST, PRIMARY DISTRICT.

This name may be applied to this section with strict propriety; first, from the character of its rocks, and, secondly, from their distribution and association.

The rocks that compose this district are for the most part primitive, in a geological sense, being composed of granite, porphyry, trap, and other allied rocks, among which the serpentines form no unimportant part.

The rock that first emerged was undoubtedly the granite, which was ejected from beneath, and protruded through the slate, and in

many instances presents all the appearances of having flowed over the sedimentary formations; in other cases it is protruded as a single dike, often of miles in extent, with lateral veins extending into the adjoining rocks.

The next class that claims our attention is the metamorphic (changed) rocks, many of which, through the agency of volcanic heat, have become true porphyries; they are largely developed on the banks of the rivers of the country, and are a great source of annoyance to miners engaged in river mining, as they are extremely tough and difficult to break.

Closely associated with these, are, occasionally, veins of the original clay slate, from which these porphyries have been formed, holding different grades of induration, passing from a fissile clay slate into a compact rock, often in the distance of a few yards.

The serpentine rocks are next in order of the volcanic group; they are generally intrusive rocks, and are widely distributed throughout the country, and many of them present distinct lines of stratification. They have received different names from the different forms they assume; some of them being true shales, of various thickness, consistency, and composition; but all of them, in whatever form they may be found, have but the one origin (volcanic), though they may receive many modifications from subsequent causes.

These rocks, when found in the form of slates particularly, are entitled to more consideration than has been bestowed upon them by the mining community, as repositories of the precious metals.

It is to this class of rocks that we are, in a great measure, indebted for those valuable deposits of gold which the slate contains, as well, also, as the auriferous quartz veins with which they are so frequently combined. It was on these rocks that one of the greatest geologists of the age (Mr. Dana,) based his opinion on the probable value of this State as an auriferous district long before the discovery of gold; and subsequent time has demonstrated how correct and just were his opinions; and yet public opinion, even at this time, has neglected to take cognizance of this class of rocks, so far only as accidental circumstances have thrown them in their way. I think that no hazard would be incurred by expressing the opinion that this class of rocks will be found, in many cases, the prolific sources of wealth in the future, equalled only by the auriferous quartz, and excelled by none. This class of rocks, or those known by the name of chlorite, which is but a variety of this group, is represented in Mariposa county, at the locality known as Bear Valley; and a sufficient illustration of its value will be found in the excitement that prevailed on its discovery. Moccasin Creek, four miles south of Stevenson's Bar, Tuolumne county, and river, is also another point at which they may be studied with advantage.

These are but two of many instances in which the auriferous deposits have been developed in this class of rocks; and when found, it is as much an integral of the formation containing it, as the thread of gold that permeates the vein of quartz.

In addition to its containing gold, as an integral part, when unassociated with the veins of quartz, it frequently becomes the retaining medium of this metal when in contact with those veins. Hence has arisen much loss to parties who have engaged in that latter branch of industrial employment, from the neglect of attention to this important point; but we shall advert to this point more particularly when the subject of Quartz Mining engages our attention.

The sedimentary rocks of this district are of three kinds: 1st. Argillite Slate (clay slates); 2d. Conglomerates (pudding stone); 3d. Sandstone; the two last occupying the smallest area.

The sandstone formation is evidently the most recent of this group, and in some parts of this district is fossiliferous—this being the only point of importance attached to it, and this only in a scientific point of view; as a matter of economy or practical interest it will not, therefore, claim our further attention.

The principal localities in which it is found to contain imbedded fossils, are upon the Butte and Chico Creeks, and near Rich and Reeve's Bars on the first-named creek, and the fossils are of the *Miocene* period, and the bed of sandstone rests on a metamorphosed slate, which is in some parts porphyritic.

The argillite rocks of this district will command our attention before either of the other members of this group; it is superior as a member of the group, though it is inferior as to position. The degradation of those rocks forms an important feature in the characteristics of the valley bottoms, and a sparsity or surplus of its debris, would, as a consequence, enhance or diminish the capabilities of the soil for agriculture; hence an attentive examination of the valley sections is imperatively demanded. It has been suggested within the past year that a large portion of this group will, at some future day, be mined for the gold it contains, mechanically, as well as other rocks that contain this metal as an integral. How soon this may take place it would be improper to suppose at this time, but the premises upon which the suggestion is based are tenable.

The conglomerates of this district will next be considered. These rocks toward the valley appear to be coextensive with the argillite, and from their position, it is inferred that their formation was posterior to the slates; in the more mountainous districts they appear in isolated masses and in small patches, rendering their study less certain. In the lower foot-hills, in many places, the group *in situ* is wanting, and in its place low, rolling, gravelly hills are the

only vestiges that mark the localities it formerly occupied. The cause of this absence in the group is found in the outcrop of heavy masses of trapean rock near the borders of the valley in these sections.

These older conglomerates have but little interest connected with them, further than geological position is concerned, except the modifying influence they exert through their debris on the formation of the valley sections; but there is a belt of these rocks in other parts of the country that will be entitled to much more and particular consideration.

Having described the principal rocks of the primary district, we will now pass to the consideration of the rocks of the northern district. To avoid repetition in our subject, in relation to its rocks, we will now state that, in addition to those noticed in the primary, the northern section contains some few that should command attention in an economic view, so far as relates more particularly to their prospective value.

The first of these rocks that will claim our attention, is a hard silicious rock, known by the common name of millstone, but in technical language *Buhrstone*. This rock abounds on the Pitt River in large quantities, and also on to the north of Goose Lake; its admirable adaptation to milling requires no comment. The value of this rock cannot be too highly esteemed in this grain-growing country, equalled by few on the Atlantic slope. The heavy expenses that are now incurred, and the future wants of the State in this particular will be obviated, and our dependent condition on foreign imports destroyed. These rocks have as yet attracted little notice, but the rapidly increasing wants of the State will ere long bring them into requisition. In addition to the buhrstone of this district, this section of the country contains some few traces of the secondary rocks, a suite almost entirely wanting, with this exception, in this country, so far as at present explored.

The existence of any portion of this suite should command our every attention; and any measure that will be likely to develope this formation, or any part of it, within the limits of this State, should meet the approbation and support of the community at large. The importance attached to this group at the present time in this country is found in the fact, that it is to this suite that we must look for a home supply of the mineral coals, if ever found within the limits of our State.

As these rocks (in form of secondary conglomerate,) have exhibited themselves in the northern district, and in those parts of the section most immediately connected with the coast line of mountains, it is to be hoped that judicious explorations in that range may develope its existence either near those points alluded to, or in other and more distant parts of the range.

From the structure of the country, it is to be doubted whether any other position than the above-named presents the slightest ground for hope that this necessary material of comfort and economy will be found in other parts than those indicated; every effort, then, compatible with prudence, should be made that will tend to elicit information on this impertant topic.

The frequent discovery of small patches of the mineral coal in those mountains, would seem to lend aid to the suggestion that its development in this range may be looked for with more confidence than at any other points, and a judiciously conducted examination is the only means that can be confidently looked to for this desirable end.

Aside from the two points alluded to, the northern district comports itself in the major part of its formations with the primary district, and varies from it only in a few minor particulars noticed in the sequel.

SOUTHERN DISTRICT.

This district, according to our arrangement, is included within the thirty-sixth parallel and thirty-eight degrees thirty minutes north latitude, and includes all that portion of the country denominated the Southern Mines, as well also as its valleys. The southern district, like the other two, contains many rocks in common.

In addition to these, there are also other formations, which differ widely from either of the other districts, which we shall notice in the same manner as heretofore, as our limits will not permit otherwise.

The first that will claim our attention will be the principal volcanic rocks, and among these the basaltic rocks will find the first place. It has been observed that the northern and primary districts contained these rocks, and it must now be noticed that the southern section contain them in a pre-eminent degree, compared to either of the others. Their principal northern outcrop commences near the sources of the Mokelumne, and extends almost uninterrupted for seventy or eighty miles south, having a mean breadth of ten to fifteen miles, and frequently extending much farther to the west, even to the foot-hills in some cases. The hills on the borders of the valley west of the Bear Mountains, Calaveras county, furnish an instance.

These rocks are well developed about the region of Bear Valley, Mariposa county, on the ridge to the east of this locality. At this place they may be found in several of the forms they assume,—as the dolorite amygdaloid, columnar basalt, and greenstone.

The effects of such large masses of volcanic rocks on the sedimentary formations through which they have protruded has been great, as would naturally suggest itself, and we find many of those

formations completely metamorphosed, as might be anticipated. The rocks are entitled to consideration in two points particlarly. One is the results that are likely to ensue from the passage of these rocks through the sedimentary formation, and is the production or development of mineral veins, consisting most commonly of the metals, copper, silver, &c. It is generally true that these are most abundant in the older system of rocks; but this is not always the case.

By clese examination of the mining districts of the world, our best geologists have announced the fact, that rich metallic districts are dependent on the proximity of igneous rocks and axes of disturbance among sedimentary formations, and every subsequent observation has tended to confirm the theory.

On comparing metallic accumulations among the igneous rocks, it is found they are the most abundant in the underlying porphyries, amygdaloids, and trap rock, as well also the syenites. This condition, and the probable value of these rocks as a future source of wealth, will be fully comprehended when we observe that the metalliferous regions of the Andes are of this same character, and the outbursts of trap through its tertiary formations, are but a simple illustration of the condition of our own.

The second point of general importance in relation to these rocks, is their value in modifying, from their composition, other earths with which they may be combined. Too much importance cannot be attached to this point, for it is through this agency that a large portion of our soil is rendered valuable for agriculture; and I hope I may not be charged with sectional feeling when I say, that in this lies one of the grand secrets of the superiority of the bottoms of the southern sections, coupled with the debris of the calcareous formations which also lie to the east of these valleys.

The next important volcanic product that will claim our attention is the large extent of the volcanic tufa that covers superficially an extensive area of country in its aggregate.

This tufaceous deposit becomes most fully defined as an overflowing mass on the ridge that forms the south bank of the Mokelumne, and is found in nearly all the districts to the east and south as far as the Stanislaus. It was very properly denominated a volcanic brecia by Mr. Tyson, on the first-named ridge, though in other sections it loses this character. This deposit covers the diluvial drift in many places, as well also the large mammalian remains that have been exhumed within the last two years. It is interesting and important, as it points to volcanic action at a comparatively recent date.

Since its deposit, strong floods have operated in these sections (which were probably pent-up waters, forming lakes in the inte-

rior), as the outliers of the surrounding hills fully indicate, as well also as the extensive table-lands that formed their shores. The towns of Valiecito, Murphy's, Douglass' Flat, and the vicinity of Sonora, furnish most admirable examples of the former existence of lakes in these sections. This tufa overlies the drift that contains the auriferous deposit of these placers, to the depth, in some cases, of one hundred feet, and even greater.

Primary Limestone.—Notice of this rock has been deferred until this time, from the fact that it occupies a much greater area in the southern sections. Its extent may be said to be included between the American and Merced Rivers, and following a line deflected but a few degrees from the parallelism of the chain; this line is not continuous, but is broken at short intervals, at times by the intrusion of volcanic rocks, at others being covered by alluvium in common with the covering of the hills.

Its situation appears to be not far from midway between the foot hills and summit proper of the range.

This suite of rocks has been tapped in many points, and a highly remunerative business is now conducted in preparing lime for the market, and its finer qualities for ornamental architecture. This formation is capable of producing varieties of marble that it will be difficult to excel from almost any part of the world. The town of Volcano, Calaveras county, affords a wide field for operation in this branch, and the beauty of the Ringgold marble requires no comment at this time.

There are many other places, too numerous to mention, in which a profitable business can and will be conducted in this branch of industry. Some portions of the more northern sections contain this rock in quantities sufficient for all the probable prospective wants of these sections. It is found in the Yubas, near the Slate range, and on the Feather River, near the Rich Bar, and Sucker Ripple, and also in other localities in these districts. The Salmon, and other streams in the extreme north, also furnish it.

The southern district contains also a very recent conglomerate, the disturbance of which was probably attributable to the more recent convulsions that have been in action in these sections. It possesses but little interest, further than the testimony it may furnish, in a scientific view, in elucidating the early and later history of this portion of the continent; it will, therefore, be dismissed with this brief allusion.

Recent Sandstone.—Between the Merced and Tuolumne Rivers there exists a bed of recent sandstone, which is probably nearly or quite contemporaneous with the last-named conglomerate. This formation underlies the principal portion of the ground between those two rivers for a long distance to the west; hence during the rainy season this district is much more firm and dry, and it is a

point eagerly sought for by the teamsters at this season, and for the most obvious of reasons. It finds a place in this report more for the purpose of illustration than otherwise, and also as a recuperative agent for some points of the adjoining districts, to be spoken of under the head of agriculture.

In review of the object before us, we find that there are evidences of at least three successive periods in which this portion of the continent has been involved; the three periods of upheaval being interrupted by long periods of repose.

In the *second* upheaval the large portion of the extreme northern district was developed, which was, probably, nearly contemporaneous with the development of the south. A long interval of quiescence is here manifest, during which the land became inhabited by mammals of varied species.

In the *third*, we find that these species were obliterated, and their remains lie buried beneath the evident causes of their destruction.

Fourth. The granite appears to have been the first of the volcanic group, and that it broke through the slate. The other trapean rocks appearing within the latter part of the first period.

Fifth. The older granite appears disturbed by more recent rocks, as well also as by more recent granites of the same species. In this particular the granite suite resembles the Heidelberg, presenting three distinct veins of different ages.

Sixth. The serpentine rocks—many of them appear to have been contemporaneous with the second period of disturbance, as is shown by their cutting through the older rocks.

Seventh. We are led to infer, from the manner in which the trapean and other volcanic rocks have forced their way through the sedimentary formations, that these rocks must prove metalliferous, as analogy and experience have proved in other parts of the world. Time will not permit to discuss the local geology of the State in a separate and distinct subject; it will, therefore, be considered under the head of Mining Resources, which we shall now attempt to elucidate.

ARTICLE V.

From the Polytechnic Journal.

On Pruning and Training Grape Vines.*

The pruning, as well as the method of training the vine, belongs to the most important parts of vine culture, which have the greatest influence both on the quality and quantity of the wine. On the choice among a variety of well-known methods, depends the success of a vineyard, as well as its fruitfulness, and the quality of the wine.

Although the pruning of the vine is closely connected with the mode of training, yet this connection is never so close that the one exclusively depends on that of the other. In one and the same mode of training, many methods of pruning may be used; and one and the same method of pruning can again bear different modes of training.

The close connection of these two subjects makes it very difficult to represent it properly. We are at a loss with which first to begin; and hence it is that some treat first of the pruning, while others commence with the mode of training.

I have preferred to speak first of the method of pruning, because, when this is faulty, the best mode of training does not succeed in securing a good and well-conditioned grape-vine. But in both, the flexibility of the vine is shown in all possible forms and magnitudes. It may appear as a plant of some feet in hight, and also as a tree, according to its management in respect to the soil. In every form, it is fruitful, and rewards the diligence of the vine-dresser, if it is only treated properly with reference to its locality.

As to the difference in the importance of pruning and training, the first, if it is properly carried out, is most effective for the preservation of the vine, because it prevents it from producing too many grapes, and the early enfeebling arising therefrom; and it also operates as well in strengthening and improving the grapes, for, if the shoots are shortened, a larger quantity of sap goes to the remaining wood, which enlarges the sap vessels, and this expansion seems to promote the better development and improvement of the fruit itself.

The attention, in a good method of training, is more directed to keeping the vine upright, and protecting the shoots from growing irregularly into each other, thus giving a proper place for the fruit, and effecting a perfect maturity, and, above all, exposing the soil to the influence of the sun and the air, so that the vegetation of the vine may be developed as rapidly as the climate and situation will permit.

* Translated from Babo's work, Der Weinbau.

Both objects must so far correspond, that in cases of powerful growth, they must furnish longer shoots, as well as an opportunity to fasten them, while in weaker vegetation, the pruning and mode of training are so managed that they require almost no support, because the vines are in a state to sustain themselves. A longer pruning requires an additional artificial support; by a shorter one, stakes may be wholly dispensed with.

By pruning the vine, as already alluded to, a certain preponderance is sought to be effected in the supply of the nutritious substance by means of the roots, in addition to that which the plant receives from the air. If we observe the process of vegetation of a pruned grape-vine, and the treatment founded on it, in the course of a summer, we immediately see what powerful shoots it produces in the spring, in order partly to use the sap supplied from the soil in a greater quantity, and partly also to form the organs, by means of which they can appropriate to themselves the necessary substance from the air. The vine-dresser lets either the shoot develop itself undisturbed, or shortens it again. In the latter case, if the equilibrium of the action of the root, with the capacity of the limbs and shoots to take up the sap is not sufficiint, the water shoots grow, which, however, the vine-dresser must not remove when the shoots are shortened in the spring. Thus the vine grows on till towards September. By means of the leaves (which, in consequence of the excess of sap caused by the pruning, become more strongly and perfectly developed, and so that their functions act more quickly and perfectly,) the communication with the air is soon again restored. This proceeds in its regular course, and the plant again acquires the equilibrium in reference to its sources of nutrition. Nothing stands in the way of the constant development and increase of all the various parts of the vine; at the end of the summer the growth is completed, and the vine has all the shoots again replaced which were taken away from it by pruning. As at this period of the year the sap recedes, there is no further reason for allowing all the green shoots to remain, therefore the vine-dresser's care is now directed to the grape, and when the leaf or the shoot prove a hindrance in maturing the fruit, they may be taken away without injury to the development of the vine for the next year.

If no disturbance takes place by the weather, or bad and improper treatment, the proper wood is formed for the next year. In the buds lie the future fruitfulness, but not as in an orchard tree, in which certain fruitbuds exist that are never in a condition to put forth branches; but the fruitfulness of the future shoot depends upon the manner in which the vessels in the buds have been perfected, so as to form a shoot that is strong for bearing; but this should not be of a growth too powerful, for, in that case, the formation of leaves preponderates and the setting of the grape is thwart-

ed, the sap being, in this case, employed in the formation of leaves.

By means of the vegetation of the previous summer the vine is prepared for the future pruning, but by pruning, the equilibrium which has been established at the end of the summer, between the flow of the sap upward from the roots and the shoots, is again destroyed, and the process of a more perfect development of all parts of the vine begins anew, in consequence of this preponderance of sap.

If we look at wild vines, and their circumstances of vegetation, we may recognize the correctness of what has been now said. Not being checked and restrained, in the first pressure of the sap, the equilibrium between the nutrition from the soil and the air, as well as between the nutrition from the soil and the number of roots corresponding thereto, is not established; the vessels do not become enlarged, the tendency to form new shoots is frustrated, and therefore these are very seldom stout and strong, and the leaves, as well as the grapes, remain small and inconsiderable. If such stocks suffer any injury on the root, so that the nutrition flows upward from them more scanty, the vine falls back and gradually dies.

When the pruned vine, in the course of vegetation, tries every year to recover its equilibrium, in respect to the nutriment from its root and the number and length of the shoots formed, then the object of the pruning is to destroy the equilibrium every spring, and by this equalizing being continually again disturbed, a more powerful growth is produced, which improves the fruit, as we observe in comparing the pruned with the unpruned vines, without causing any retardation of the vines, because the summer vegetation always again establishes the equilibrium.

The preponderance of the nutriment from the roots is sought to be obtained by the cuttings. Hence the young vines are pruned to their small heads in the first year. It might be supposed that thus the nutriment from the air would be checked, but this is not the case, for so long as no leaves generally exist (as in the early spring), they do not appear necessary, but as the leaves appear, they replace and make up, by a greater vital activity, the necessary number.

But salutary as a certain excess of nutrition from the soil is to the growth and fruitfulness of the vine, it must not exist in too great measure. If this is the case, the whole process of formation exceeds its proper bounds, the swelling of the vessels appears to become too powerful, and then only operates in the formation of leaves and shoots, grapes do not set, and those that already exist are transformed into tendrils. This may be observed when very vigorous vines are cut off too short, or when, by any particular circumstances of the season, the growth of the vine is unusually

excited, in which case, the grapes, according to the expression of the peasants, grow over, or change into tendrils.

If the reverse is the case, and there is either hardly none, or only a slight excess of sap, then the growth approaches nearer to the nature of a wild unpruned vine. The leaves and the grapes remain small, and if the root is too feeble to furnish a greater quantity of nutritious sap, or if perhaps the soil, by its meagerness, contributes to this result, the vine becomes at first unfruitful, and in the end wholly perishes.

To keep the vine in the right state, the length of the pruning should be proportioned to the quantity of sap. This is the greatest art of an experienced vine-dresser, whereby he has not only the fruitfulness, but also its permanence and the quality of the wine, in his power. In pruning, he must have a particular care that he not only always prunes somewhat less wood than the vine might apparently bear, but he must also avoid pruning too little, in order that the growth of the vine may not be too much excited. He must judge of the degree of these relations, and especially how the vine is conditioned as to its roots; the less there are, the less must be cut off. It has been supposed that, according to the kind of vine, the pruning must be longer or shorter, but this is wholly incorrect. We must judge only according to the power of growth of the vine, and if the dwarf kind of vines, as, for instance, the Riesling, in certain localities, grow rankly, they must be pruned like kinds of more powerful growth. But if the rank-growing vine, on a meager soil, grows too weakly, they need not be pruned any longer than the dwarf kinds. It may therefore be laid down as a rule, that the condition of the soil, as to its power of growth and richness in manure, must furnish the standard for the mode of pruning, whether it be long or short; only on a soil of equal condition, regard is to be had to the kind of vine itself, and among these, that sort must be pruned longest which is the most active in growth; *i. e.*, which by the power of its roots draws from the soil the greatest quantity of nutritious substance, and which is in the best condition to use it.

Young vineyards, planted with vines of the dwarf kinds, must often be pruned longer in the first year than in the succeeding ones, because they will otherwise bear nothing. These form, on the whole, no exception, but belong to those cases in which the particular circumstances of the soil call forth a stronger activity of growth.

The answer to this question, where the longer or shorter pruning must be used, is therefore simple, and in theory easily established. But that acumen in judging of the power of active growth belongs to practice, which is only possessed by the experienced vine-dresser who has carried on the business for a long time, combined with gifts of observation and good understanding, and not

merely mechanically. But if, owing to the power of growth in the soil, and, as a consequence of this, the strong or feeble growth of the vine is cited as the standard, according to which the vine-dresser should prune long or short, another rule follows, which is often disregarded, but when omitted, causes destruction in many a vineyard. Long or short pruning must not be decided upon empirically according to an adopted method, but more according to the growth which the vineyard showed the previous year. As it is usually believed that it is correct to prune long or short, according to the kind of the vine, and very often the same way of pruning is carried on every year, whether the vine may have grown strongly or not. This procedure is incorrect, for if the vine in the previous summer only forms feeble wood, it is easy to understand that its roots have also grown only a little, or that many must have perished. If this is the case, the entire ruin of such a vine can only be prevented by shorter pruning, as the roots are not sufficient and strong enough to furnish the nutriment for a heavy growth. But if the growth was too great, then the reverse condition must take place, and by too short a pruning, the fruit-bearing buds, which have advanced forward, may be destroyed. For these reasons, many writers justly recommend that, after a wet summer, in which the growth is greater than in a hot, dry season, more of the branches should be pruned, in order to preserve the fruit-bearing buds.

It is likewise known that a longer method of pruning causes more grapes, which otherwise are lost in the buds cut off. But in this case, unless the active power of growth of the vine is aided by specially strong manuring, for a few years, while thus the stock is strained more than is necessary, according to the expression of the vine-dresser, they kill themselves by over-bearing, and once injured in that way, it is very hard to bring the vine again to its proper state. In the pruning, not only the fruitfulness of a single year, but also its continuance for many years, must be kept in view.

A practiced vine-dresser, by means of the length of pruning, combined with a reference to the other circumstances, can regulate the active power of growth of his vine at pleasure. If the vineyard (for instance, a young stand,) has too strong an impulse, he weakens it by a longer pruning, for many years, until he has reached the right proportion. If, on the contrary, it is too weak, he seeks, by short pruning, to excite the growth till the desired strength again appears. But the right degree of active power of growth is that in which the vine sets grapes most abundantly, without being exhausted, and does not produce too many leaves, nor changes set grapes into tendrils.

As the active power of growth and the mode of pruning the vine are so closely connected, it is natural that the manuring of the vineyard must exert a great influence on the length of the pruning. We shall speak further of this in the chapter on manuring.

If the vine is not in an unnatural situation, for example, on a too fat or too meager soil, if it is adapted to its nature, and we do not observe that its shoots are particularly strong or too weak, the kinds of the vines are to be clearly distinguished from each other, as also, for the most part, the place of the fruit-bearing buds, which vary very much upon the shoots. The dwarfish, small kinds, having slender shoots, the fruit-bearing buds are very close to the two-years' old wood, from which they have grown; while in the kind with strong shoots, the buds are further from the older wood. When, in pruning, the judgment is to be formed as to the power of growth, the vine-dresser must never lose sight of the peculiarities of the kinds; he may otherwise allow in the dwarfish kinds of vines too much needless wood, but cut away the fruit-bearing buds in vines which produce strong shoots. In extraordinary cases, the vines may change their nature to such a degree that scarcely any true peculiarity is left.

Besides the reasons of which we have treated, why and how vines should be pruned, we should have respect also to the constancy of the mode of training, as regards their hight and form. Without pruning the vine into a permanent form and size, it would grow gradually into a tree. But the maintenance of an equal hight by pruning the growth of young shoots, yet offers further advantage for a constant rejuvination of the old wood of the vine, to which the vine-dresser must pay much attention.

But, in order to understand properly even the pruning, the vine-dresser must accurately distinguish the various parts of the vine. The relation of one part to the others must not be unknown to him, and he must become acquainted with all the peculiarities, in reference to the fruitfulness of the whole vine. He must therefore especially distinguish:

1. The stem from the division of the principal roots to the first division of the principal limbs. This part of the vine first passes into wood, and becomes hardened. Where it still serves to guide the sap upward, sucked in from the roots, its activity in the formation of new shoots is almost wholly extinct, and only in cases of a considerable loss of the shoots, the existing buds can be forced to penetrate the hardened bark. Hence new shoots show themselves, on such wood, only by way of exception, and these then usually are set so superficially that they are not fitted for the formation of new limbs. They are, therefore, usually unfruitful.

But if such shoots are strong, and firmly set, they can often be used for the renewal of the vines. They must, therefore, be immediately taken care of, and pruned back to one or two buds, in order that they may be invigorated, if they are to be used for the renewal of the vine, or particular limbs. To induce the production of shoots, we must free the stem from the dry woody bark by an application of lime. The buds which are dormant beneath it

will then be excited to vegetation. We can also aid the shooting forth of the buds, if it is desired, by making deep cross cuts in the stem or limb with a knife or chisel.

2. The limbs are the continuation of the stem, and if not considerably younger than the stem, they partake of all its peculiarities. They convey the sap from the stem to the younger shoots, and, on this account, are important, because they serve as the medium for bringing the various green portions of the vine upon those places where it is desired to have them. Also, by gradually forming new shoots lower down, the whole plant may be renovated, so that we are in a condition to bring down nearer to the ground the limbs that are too high; hence strong shoots, growing on the lower part of the limbs, are to be well taken care of.

3. The young shoots may again be subdivided into:

(*a.*) Shoots that are too years old, pruned the previous year, the wood being at that time a year old.

(*b.*) Those which have grown the previous summer, and first formed a proper woody texture in the preceding autumn or winter, and were pruned, and therefore are one year old or proper fruit-bud shoots, from which, during the next summer, the fruit-bearing shoots are produced.

(*c.*) The two-year old wood, if it has not been wholly removed by pruning, gradually passes over into the nature of limbs, and becomes old. Such additions increase the size of the vine too much, when they are not avoided by a young shoot growing down upon the limb. But, in pruning, the two-year old is particularly to be noticed, because, in the year when the pruning takes place, it forms the basis on which the fruit-bud shoots must be pruned. The shoots which proceed directly from the stem, or the old limbs, as a general rule, never produce grapes the first year. The two-year old wood, therefore, in a certain degree, forms the medium between the old hard part of the stem and the soft part of the year-old vine, and the fruitfulness of the latter depends on it. It is only when the shoots of a vine are, on the whole, sickly and feeble, single grapes are produced on the shoots proceeding directly from the stem on the limbs. The vine-dresser must therefore direct his attention to this point, *that the one-year old fruit-bearing limbs always set on two-year old wood, and not upon older.* If he neglects this rule, his product is only accidental.

In the choice of the one-year old wood for pruning, there arises the question, whether on the two-year old wood, we should take for pruning the lower or higher shoots? As to fruitfulness, they are alike; we must, therefore, look to the form of the vine, and in order to preserve this, and not to allow the vine to run high too quickly, we must try to keep the vine low by taking off the uppermost shoots.

A particular attention is to be paid to leave between the proper fruit-bearing shoots and the head, reserved spurs, which enable

the vine-dresser to reduce the whole vine, or to bring down, in the next year, the bearing shoots to a lower place. If there is a chance to leave a spur between the fruit-bud shoots and the limbs, on the two-year old wood, such a spur must be left thereon, and if this is not the case, then a shoot from the limb must be used for that purpose. The main object of the spur is to produce fruit-wood. When such fruit-wood grows grapes on them it is well, provided they do not prevent it from getting a strong fruit-bud shoot for the next year. (Copied from "The Farm and Garden."

Arkansas Marble.

Every product of the State of Arkansas attracts interest. An earnest hope is entertained that the internal resources of the State will firmly sustain her bold system of Internal Improvements. Every month we find new evidence to strengthen our faith in her prosperity.

The elegant Steam Packet *Amazonia* plying between St. Louis and Memphis is a precursor of more intimate and profitable relations between Missouri and Arkansas. The establishment of a regular packet to maintain direct trade between St. Louis and Little Rock, might not only be profitable in itself, but also tend strongly to accelerate the construction of the Arkansas and Missouri Railroad.

We note an interesting editorial in the Memphis "Eagle and Enquirer," of 9th July, on the subject of Arkansas Marble.

"ARKANSAS MARBLE.—We have been shown, at the yard of Messrs. White and Ameis, on Adams street, a specimen of variegated black marble, taken from the quarries of White River, in Arkansas, which for beauty and fineness we have never seen equalled, even by the Egyptian article. This may seem extravagant commendation of home products; but an examination of the Arkansas specimen, and a contrast with that imported, will satisfy any one that what we have stated is true. It is not only finer in texture than any Italian marble, but is susceptible of a much higher polish than the Egyptian, from which our finest articles of furniture, mantle pieces, tables, &c., are made. Messrs. W. & A. have received a block of this marble, from which they design manufacturing mantle-pieces, in the best style of the art. When made, they will speak for themselves against the necessity of our going abroad for marble, when we may, at our own doors, as it were, procure a finer article than can be got from foreign quarries."

JOURNAL OF INTERNAL IMPROVEMENTS.

Arkansas and Missouri Railroad.

This enterprise through Arkansas, from Missouri to Louisiana, is constantly gaining ground. Messrs. PATTERSON, BEVENS and AMBLER, of Batesville, as by published card, were to take the field from Chalk Bluff to Jacksonport, on the 18th July, soliciting subscription for stock, and right of way, and have agreed to continue in the field until the 3d of August. We hope to hear, next month, an encouraging report of their success.

On the 12th July, 1853, Pulaski County subscribed to the capital stock of this company $5,000 of the internal improvement fund, and paid over 20 per cent. in cash, on the petition of ROSWELL BEEBE, Internal Improvement Com. of the County, and President of the Company, who in his petition imparts the cheering intelligence that the C.& F. Co. "have obtained near $100,000 of private stock subscriptions upon which five per cent. has been paid to the Company, who have directed negotiations to be made by the President, for the immediate employment of a corps of engineers, to survey this main line of road preparatory to a beginning of the work."

Mr. BEEBE has also sent circulars to the agents of the Co. requesting them to solicit county subscriptions of the internal improvement fund along the line.

As this investment of this fund is in strict accordance with the law, and will be profitable, and moreover as this enterprise is popular, the other counties along the line of the road will doubtless follow the example so wisely set by Pulaski. When this course is pursued by the respective Counties from Missouri to Louisiana, the work will necessarily increase in popularity, and be strengthened in credit, and the Company will be more deserving of the transfer of the lands granted to the State for the main trunk; whereas, if the Legislature were convened now, they might be compelled to adjourn, with a sense of dissatisfaction at having been prematurely called together with an undigested, even unsuggested system of action; for what could the Legislature do at present more than has been done, except approve the course that has been pursued by the Governor of the State and the President of the Co., advise perseverance in the same, and resolve to meet again, when the time for their action might arrive.

If the individuals and all the counties along and adjoining the line of the road subscribe liberally to the stock, then the Legislature will, with dispatch, transfer the lands to the Company, the counties will be doubly re-imbursed, the road speedily built, money flow into the State, with a rush of business and population, and the lands rise in value several hundred per cent.

THE INTERNAL IMPROVEMENT FUND of Arkansas is an interesting item, and as a portion of it is being applied to the stock of the C. & F. Co., we herewith presentan account of it as published by the Treasurer of the State, in the *True Democrat.*

Statement of Distribution and Payment of the *Internal Improvement Fund* to 1st July, 1853, inclusive, showing the total amount distributed, the amount drawn, and the balance due each county on that day.

COUNTIES.	Total Distributed.	Amount Drawn.	Balance on 1st July, '53.
Arkansas,	3801 06	2707 39	1093 67
Ashley,	3801 06	1835 33	1965 73
Bradley,	3801 06	2707 39	1093 67
Benton,	3801 06	2707 39	1093 67
Calhoun,	2968 75	1875 08	1093 67
Columbia,	1965 71	nothing	1965 71
Carroll,	3801 06	1835 34	1965 72
Crawford,	3801 06	2707 39	1093 67
Clark,	3801 06	2707 39	1093 67
Chicot,	3801 06	1325 47	2475 59
Crittenden,	3801 06	2707 39	1093 67
Conway,	3801 06	2707 39	1093 67
Dallas,	3801 06	2707 39	1093 67
Desha,	3801 06	2707 39	1093 67
Drew,	3801 06	2707 39	1093 67
Franklin,	3801 06	2707 39	1093 67
Fulton,	3801 06	2707 39	1093 67
Green,	3801 06	2702 39	1093 67
Hempstead,	3801 06	nothing	3801 06
Hot Spring,	3801 06	2707 39	1093 67
Independence,	3801 06	2707 39	1093 67
Izard,	3801 06	1835 36	1965 70
Jackson,	3801 06	2707 39	1093 67
Jefferson,	3081 06	2707 39	1093 67
Johnson,	3801 06	2707 39	1093 67
Lafayette,	3801 06	1835 37	1965 69
Lawrence,	3801 06	2707 39	1093 67
Madison,	3801 06	2707 39	1093 67
Marion,	3081 06	2707 39	1093 67
Mississippi,	3801 06	2707 39	1093 67

Monroe,	3801 06	2707 39	1093 67
Montgomery,	3801 06	2707 39	1093 67
Newton,	3801 05	2707 39	1093 66
Ouachita,	3801 05	2707 39	1093 66
Prairie,	3801 05	2707 39	1093 66
Perry,	3801 05	2707 39	1093 66
Phillips,	3801 05	2707 39	1093 66
Pike,	3801 05	1835 36	1965 69
Poinsett,	3801 05	1835 35	1965 70
Polk,	3801 05	2707 39	1093 66
Pope,	3801 05	2707 39	1093 66
Pulaski,	3801 05	2707 39	1093 66
Randolph,	3801 05	2707 39	1093 66
St. Francis,	3801 05	2707 29	1093 66
Saline,	3801 05	2707 39	1093 66
Sebastian,	2743 26	1649 60	1093 66
Searcy,	3801 05	2707 39	1093 66
Sevier,	3801 05	2707 39	1093 66
Scott,	3801 05	1835 34	1965 71
Union,	3801 05	2707 39	1093 66
Van Buren,	3801 05	2707 39	1093 66
Washington,	3801 05	2707 39	1093 66
White,	3801 05	2707 39	1093 66
Yell,	3801 05	2707 39	1093 66
Total amount	201531 57	131407 98	70123 59

J. H. CREASE, Treas. of Ark.

Treasurer's Office, Little Rock, July 2, 1853.

PACIFIC RAILROAD CELEBRATION.

The 1st Division of the Pacific Railroad is done.

On the 19th day of July, 1853, about 700 invited guests were transported over the line into Franklin County, where immense tables were loaded with the good things of this world. In the midst of the feast speeches were made, congratulations interchanged, pleasant memories and brilliant hopes portrayed, and the company returned to St. Louis in the evening with safety and satisfaction.

The *Missouri Republican*, of the 21st July, contains an admirable history of the celebration. The cost of the road, and character of the country, will be published by us hereafter.

Iowa and North Missouri Railroad.

THE CHARITON CONVENTION of the people of the Des Moines Valley was held on the 20th June, 1853, pursuant to the resolutions of the Railroad Meeting at Centreville, Appanoose County, on the 4th of May.* As we anticipated they have reiterated earnest resolutions in favor of the Mississippi Valley Railroad, declaring it to be "one of the most magnificent enterprises of the age." We are confident that a lively correspondence will arise between the Committee of the Convention and the North Missouri R. R. Co., so that abundant information may be prepared by the first Monday of September next to give a wise direction and irresistable force to the ALBIA CONVENTION.

The actors and actions of the CHARITON CONVENTION were as follows:

From the "Democratic Union," Keosauqua, Iowa.

RAILROAD CONVENTION.—Pursuant to previous notice, a large meeting was held at Chariton, Lucas county, Iowa, June 20th, for the purpose of taking into consideration the propriety of extending the Northern Missouri Railroad from a point on the South line of the State on the most accessible route to Fort Des Moines.

On motion, Judge BATES, of Polk county, was called to the chair, and D. ANDERSON, appointed Secretary.

On motion, a committee of six were appointed by the chair to draft a series of resolutions expressive of the objects and intentions of the meeting, which committee consisted of Judge Riggs, of Appanoose, J. B. Teas, of Monroe, Dr. Yeoman, of Lucas, H. H. Trimble, of Davis, J. E. Neal, of Marion, and S. W. Summers, of Wapello.

During the absence of the committee, the meeting was ably addressed by Messrs. Bates, Dunlavy, May and Harris.

The committee presented the following preamble and resolutions which were unanimously adopted:

WHEREAS, The citizens of the State of Missouri have organized a company for the purpose of constructing a railroad to be called the North Missouri Railroad, from St. Louis, in said State, northwardly along the great divide, separating the waters of the Mississippi from the waters of the Missouri, to some point on the State line between Iowa and Missouri, thence to be continued northwardly through Iowa to St. Peters, in Minnesota; whereas, said company have obtained a charter for said road, and been

* See page 127, vol. 10.

favored with an extensive loan by the State towards the building of the said road, and whereas, the said company have commenced, as we are informed, the survey of said road, and do by their acts show that they have commenced the work in good earnest, and are determined that said road shall be built, Therefore,

Resolved, That we, as citizens of Iowa, living in a portion of the State through which said road must run, have remained idle, though not indifferent, spectators of the noble enterprise of the citizens of our sister State already too long.

Resolved, further, That we are vitally interested in the construction of said road, running as it will from the great commercial emporium of the West through the very heart of the richest portion of the young but growing State of Iowa, and forming a link of a contemplated road from the extreme South to the extreme North of the Union, it forms a part of one of the most magnificent enterprises of the age.

Resolved, further, That we are willing to do anything in our power to forward the interests of said proposed road, and that we believe the time of action has arrived.

Resolved, That a committee of seven be appointed to correspond with said company with reference to the progress and prospects of said road, and to collect information generally in regard to the same, to be laid before this convention at its next meeting in Albia.

Resolved, That when this convention adjourns it adjourns to meet at Albia on the first Monday in September, 1853.

J. B. Teas, Chm. Com.

The following gentlemen were appointed the corresponding committee, contemplated in the foregoing resolutions, viz: C. Bates, D. Yeoman, A. Harris, H. H. Trimble, E. Anderson, J. E. Neel, and P. Bryant.

On motion, resolved that the proceedings of this convention be published in the Iowa Star, and the other papers in this State, and those in St. Louis be requested to publish the same.

On motion, adjourned to the first Monday in September next at Albia.

C. BATES, President.

D. Anderson, Secretary.

In addition to the foregoing, we find another evidence in Iowa of the popularity of the North Missouri Railroad.

On the 9th of July, 1853, a railroad meeting was held in Bloomfield, Davis County, and a resolution was passed proposing to raise $100,000 for the work.

We present their proceedings with the accompanying well-timed editorial from the *St. Louis Intelligencer.*

NORTH MISSOURI RAILROAD MEETING IN IOWA.

It will be seen by the following that the citizens of our sister State are not unmindful of the great interests they have at stake in the speedy completion of the North Missouri Railroad. The people of Davis county have, in their primary meeting, set a noble example for many of their neighbors, who will doubtless emulate their public spirited energy without delay. It cannot be apprehended that the voters of Davis will fail to ratify the resolution concerning a subscription of stock.

The spirit exhibited in the resolutions is the true one which should breathe along the whole line of the projected Great Valley Railroad. The WEST requires no less for its rightful development. When every locality whose *interest* is equally involved with that of Davis county, in this grand scheme of railroad connections, shall show an equal appreciation of the fact, we may consider the day very near when the Valley of the Mississippi shall occupy that distinguished position in the eyes of the world, as to commerce, wealth and intelligence, which Nature has with unsparing hand endeavored to secure for her.

Bloomfield, July 14, 1853.

MR. EDITOR: By giving the accompanying account of our meeting and resolutions an insertion in your paper, you will confer a great favor on the people of this part of Iowa. Your paper has, I believe, the largest circulation in this county of any published in St. Louis, and for this reason we are anxious for our proceedings to appear in the "Intelligencer:"

At a meeting of the citizens of Davis county, Iowa, held at the Court House, in Bloomfield, on the 9th day of July, to take into consideration the means to connect with the North Missouri Railroad, on motion, A. D. WILLIAMSON, Esq., was called to the Chair, and O. D. TISDALE was appointed Secretary.

The committee appointed at the previous meeting, to draft resolutions expressive of the sense of the citizens of Davis county, in relation to said road, reported the following which were unanimously adopted:

WHEREAS, We, the citizens of Davis county, owing to our geographical position, are, and ever have been laboring under great disadvantages in transporting our surplus products to market; and whereas, the citizens of Missouri have organized a company, and are now making vigorous efforts to construct a Railroad from St. Louis northward, along the great divide between the Mississippi and Missouri rivers; therefore,

Resolved, That we have been slumbering too long in reference to this road; and that we believe the time has come for action; we

now pledge ourselves to coöperate heartily with the friends of said road, in forwarding its interests.

2. *Resolved*, That said road constitutes a link of the great contemplated road from New Orleans to St. Paul, and that in locating said North Missouri Road, reference should be had to this fact—that Bloomfield lies in the direct route of such contemplated road.

3. *Resolved*, That Fort Desmoines is at least fifty miles out of the direct route of such contemplated road; and that the direct route passes through a district the richest and most fertile the State affords, and one which is much more densely peopled than any district through which a more western route could pass.

4. *Resolved*, That the nearer the route of said road approaches the Mississippi, while sufficiently remote to avoid competition with it, the more profitable will be the stock in said road, and the more will it enhance the trade of St. Louis.

5. *Resolved*, That nothing is wanting to our success in this matter but an effort on the part of the people of this county; and that we look upon the proposed road from St. Louis as a fixed fact, and the only sure adventure of the kind in which our citizens can be interested. Therefore, we further resolve, that the interests of the citizens of Davis county require an outlet to the markets of the world; and that we look upon the North Missouri Railroad as a work in which the entire population of Davis county, and southern Iowa, may unite; and that we hereby respectfully request our County Judge to submit the proposition to the people at the earliest practicable period, for a vote for or against a subscription by the county for $100,000 stock in said road.

6. *Resolved*, Thatt he county of Davis has under her soil inexhaustible wealth to attract the attention of a railroad company, and that the statistics of our State will show to the world that we have as good and productive an agricultural district as the world can afford; and that no part of the globe can, from its *own resources*, afford more business for a railroad.

7. *Resolved*, That a committee of three be appointed to correspond with the officers and friends of said road, to solicit such information touching their views and designs, as will enable us to take the required steps to secure their coöperation in bringing the said road through our immediate vicinity of country.

H. H. Trimble,
O. D. Tisdale, } Committee.
W. H. Jones,

On motion, a committee of three, to wit: O. D. Tisdale, H. B. Horn, and S. G. McAchran, was appointed to correspond with similar committees on the proposed line of said road, for the purpose of fixing a time and place of meeting, of the friends of the road, to take measures for its early completion.

On motion, a committee of three was appointed, to wit: H. Dunlang, Dr. D. C. Greenleaf and S. S. Carpenter, to correspond with and invite citizens of Missouri and Iowa, to be present at the proposed meeting of the friends of the road.

On motion, the meeting adjourned.

A. D. WILLIAMSON, Chairman.

O. D. TISDALE, Secretary.

Hannibal and St. Joseph Railroad.

The survey of a route for the Hannibal and St. Joseph Railroad has placed the mineral resources of North Missouri before the people of the United States in a new light, whilst the fact that this line of road traverses a coal-field for the distance of seventy miles is calculated to make it one of the most important improvements in the Mississippi Basin. Coal may be regarded as a necessary element of modern civilization, and the imagination can scarcely grasp the extent to which its consumption is destined to be carried in this broad region. To give some idea of the growth of the coal trade east of the Alleghanies, where wood is much more abundant than in the West, we extract the following statistics from the Railroad Journal:

"In 1821	there were	1,071	Tons	consumed in the	U. S.
1831	"	178,000	"	"	"
1841	"	888,000	"	"	"
1851	"	4,383,730	"	"	"

At the same ratio of increase for the next decade the consumption will be in 1861 seventeen millions of tons."

No apprehension need be entertained on the part of the Hannibal and St. Joseph Railroad Company, that there will be little or no demand for coal: it will not be many years after their road shall have been completed before it will be taxed to its utmost capacity to transport this one article. And traversing, as it does, one of the best agricultural districts of this great valley, it will not be long before a double track will be required to do the business of the line. We most cordially congratulate the company and the citizens of North Missouri in general, in view of the brilliant prospects before them.

We are conscious of the injustice which we do the Chief Engineer, J. M. Bucklin, Esq., by copying a part of his very able Report without publishing the whole document; but as that was not practicable without doing violence to the arrangement of our Journal, we trust some other occasion may arise which will enable us to do him more ample justice.

REPORT OF THE ENGINEER ON THE PRELIMINARY SURVEYS AND LOCATION OF THE HANNIBAL & ST. JOSEPH R. R.

The greatest obstacles to be surmounted on the route of the Hannibal and St. Joseph Railroad, were supposed to exist in passing the "Elk Knobs" in Macon County, between "Yellow Creek" and Chariton River, a distance of twenty miles. A favorable location was, however, obtained through this locality; the peculiar features of which consist of short conical ridges, formed by irregular ravines, several of which head in a point common to each, and after running in opposite directions, curve abruptly and unite; thus forming what is generally called the "Knobs," some of which are so regular in contour, that they resemble more the works of Art than of Nature.

The summit of the "Knobs" seems to have been a common level, in some instances two hundred feet above the general surface. A tendency to this conformation is first observed in Township 60, and extends down into Township 56; but they are seen in all their prominent characteristics in Townships 58 and 59. They are drained by the Muscle Fork. The forces operating in producing these distinctive features, must have acted differently upon the surface on either side of this particular locality; for, while the "Knobs" exhibit the effect of the action of subsiding waters, the former indicate that of a violent current, producing extensive, well-defined valleys and ravines.—Indeed, the whole surface from the "Elk Knobs" west to "Grand River" seems to have undergone the process of what is termed by Geologists denudation, by which all the superior and a portion of the inferior strata have been carried off. The effect of this denudation has been to expose and render available an immense bed of bituminous coal, with which a greater portion of the country is underlaid; it extends a distance of seventy miles, varying in thickness from one to nine feet; the maximum of which, occurs in the vicinity of Bloomington, Macon County. It is discovered at frequent intervals. On Grand River at a depression of ninety feet below the Missouri River, at St. Joseph; in the Valley of "Locust Creek," at a depression of seventy feet; in the "Muscle Fork" at a depression of 30 feet, and on the middle Fork of the Chariton at an elevation of five feet above the Missouri River, at the point before mentioned, showing a uniform rise towards the east of about one foot per mile.* It probably terminates in the dividing ridge

* The true dip is probably S. W.

between the Missouri and Mississippi, a few miles east of Bloomington; between this point and the Mississippi an accurate geological examination will be required to determine the precise condition of this coal measure, as there may have occurred either a dip in the opposite direction, or a "fault" in its position. The coal formation at Grand River is undoubtedly identical with that at Bloomington and the intermediate points, the overlaying strata being the same—lamenated sandstone of fine grit. This stratum of coal disappears at Grand River, in consequence of its "dip" westward and the great increase of the elevation of the general surface; it is therefore covered to a depth that prevents its appearance on the line westward. At an elevation of fifty feet above this formation, on the west side of Grand River, there are indications of coal. It was supposed that it might prove to be the margin of another Coal Basin, with a "dip" eastward, increasing in thickness westward. This is probably the case; but the increase of thickness is not sufficient to render it of any practical value. It was traced west for forty miles. There can be no doubt of the presence of Galena or Lead ore in the vicinity of Grand River; but to what extent is unknown. Hydraulic limestone occurs on the route. Crude Copperas (Sulphate of Iron,) is found on one of the tributaries of "Muscle Fork. Marl, of a superior quality, also exists in abundance in the Valley of Chariton.

For the purpose of comparison, I have divided the whole route into four Divisions—the first commencing at St. Joseph, and extending twenty-five miles east; the second commencing at the termination of the first, and extending to Medicine Creek, a distance of 59.1 miles; the third commencing at Medicine Creek, and extending to Palmyra, a distance of 106.8 miles; and the fourth embracing the line between Palmyra and Hannibal, a distance of 11.4 miles: total distance, 202.4 miles. The tables of comparison of the different routes on these divisions, accompanying this report, are marked A, B, C, and D. They exhibit the comparative operative value in detail, of all the practital routes, founded upon the well-known approximate power of locomotive engines on levels and on grades, the cost of repairs, and the interest on the cost of construction. On all the routes an addition of 15 per cent. has been added to the estimated cost, to cover the prospective rise in the value of labor and of iron. With this addition, and $400,000 for rolling stock, depots, &c., the total estimated cost is $4,066,624, or $20,092 per mile. (See Table E.) This estimate is calculated for the passage of four trains per day, two each way. On the first and second Divisions the calculations are based upon equal transportation east and west; on the third and fourth Divisions at double tonnage passing eastward. The maximum rate of graduation on the whole route is 50 feet per mile. The minimum radius of curvature 1,910 feet.

First Division.—By referring to table A, before alluded to, with reference to the First Division, it will be seen that the Northern Route will cost $20,306 per annum more than the Southern Route to do the same amount of business; and that the Middle Route exceeds the Southern $6,116 per annum, at the estimated cost. At contract cost the difference is less, as all the routes are calculated at the same rate per mile; but notwithstanding, the Southern Route, on account of its superior working value, is $4,100 per annum less than the Northern, and $2,600 per annum less than the Middle Route. Taking, therefore, into consideration, grades, distance, curvature, and cost, the only elements of calculation that can enter into an abstract comparison of the operative value of routes, the Southern Route of this division is demonstrably the best.

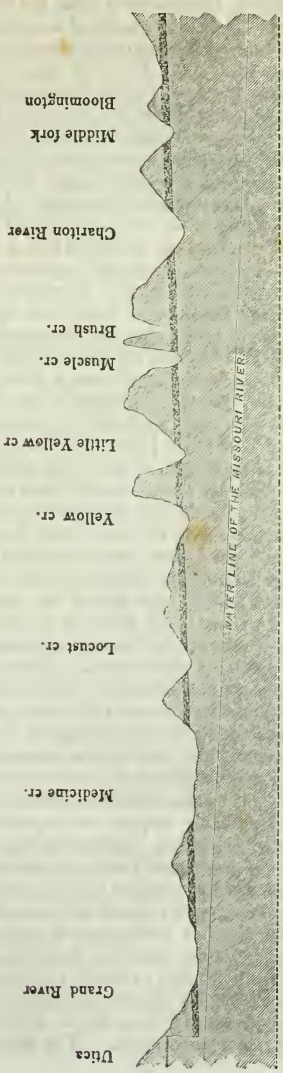
Second Division.—This division includes that part of the line between Castile and Medicine Creeks, embracing the Northern Route, by Gallatin and Springhill—the "Utica Divide" Route, passing one mile south of Utica and Chillicothe—and the "Shoal Creek" Route, passing down the Valley of "Shoal Creek," two miles north of Kingston, and joining the two former at Medicine Creek. The comparative value of these routes is shown in table B; by which it appears that the Northern Route, passing the same tonnage, will cost $40,470 per annum more than the "Utica Divide" Route at the estimated cost of construction, and $31,128 per annum more at contract cost; that the "Shoal Creek" Route will exceed the "Utica Divide" Route by $1,833 per annum at the estimated cost, and $2,736 per annum at contract cost. The "Utica Divide" Route is therefore the best route.

Third Division.—The Third Division, extending from Medicine Creek to Palmyra, includes the "Northern Route," passing through Bloomington and Shelbyville, and the "Southern Route," passing three miles south of Shelbyville. By table C it will be perceived that the cost of the "Northern Route," at estimated value, is $18,027 per annum greater than the cost of the "Southern Route," and $3,982 per annum greater at contract cost of construction. The Southern route is therefore the best route.

Fourth Division.—The Fourth Division extends from Palmyra to Hannibal, embracing the "Bear Creek" Route, the "Clear Creek" Route, and the "Minnow Branch" Route. With regard to the surveys of this division, the Board is aware that the two former routes were surveyed and reported upon by me at a former meeting of the Board, and that the latter route was partially examined and abandoned. Being under the impression that all the examinations necessary to enable the Board to decide upon the selection of a route for the eastern terminus had been made—and that a speedy completion of the approximate location was necessary, and, indeed, required by an order of the Board—Mr. W. C.

NORTH MISSOURI COAL FIELD.

HANNIBAL AND ST. JOSEPH RAILROAD.



Section 70 miles long.

See Report of Chief Engineer, Hannibal and St. Joseph Rail Road, Page 272.

Bayly was dispatched, (immediately after the adjournment of the Board in August last,) to take charge of a corps of engineers, for the purpose of continuing the preliminary surveys previously terminated at Palmyra in 1851. Upon his arrival at Hannibal, instructions were issued to him "by the Directors," as stated in his report, resulting in the survey of the whole, and definite location of a part, of the "Minnow Branch" Route. Nearly one-half of this route is traced on curves, a series which of short radii, and in reversed order, occurring in a grade eight feet above the maximum, are wholly inadmissable on this road. In the calculations of quantities, the slopes of the cuts are assumed at 1 to 1, with a general base of fifteen feet; the estimated cost is therefore too low. Aside from these objections, which will require a greatly increased expenditure to obviate, it will be seen by reference to table D, that it is inferior to either the Clear or Bear Creek Route. It will also be seen by the same table, that the estimated cost of the Bear Creek Route is $218,141, and the contract cost $340,400; that the Clear Creek Route at estimated cost is $246,195, and at contract cost $264,500; and that the Minnow Branch Route is $328,-897 at estimated cost, and $303,600 at contract cost. At the estimated cost the Bear Creek Route is the lowest, and at contract cost Clear Creek is the lowest. But upon comparing the operative value of the different routes, as exhibited in the before mentioned table, it will be seen that the Clear Creek Route will cost $6,617 per annum less than the Bear Creek Route, at estimated cost, and $13,923 per annum less at contract cost; that it will cost $16,302 per annum less than the Minnow Branch Route at estimated cost, and $14,785 per annum less at contract cost. By this comparison the Clear Creek Route is the best, in consequence of the greater economy of the working expenses and repairs accruing from the shortness of the route. These advantages were appreciated by me in the conclusions arrived at in my former report on the survey of these lines in 1851. But, on the other hand, there was the great available space found at the terminus of the Bear Creek Route, and the want of it at the terminus of the Clear Creek Route; to provide for which, and to procure the exclusive right of way for some distance above the town, which seems to be necessary, would probably require an expenditure of at least $100,000. This consideration, together with the difference of the probable cost of construction of the Clear and Bear Creek Routes, inclined me in favor of the adoption of the latter. As I then stated, "everything else being equal, the Bear Creek Route is preferable on account of its superior advantages in approaching the river, and the probability existing that the maximum grade can be reduced." The object then was to obtain the least expensive route, having the best outlet from the city, the maximum grades being equal. But questions seem to have arisen, which may render these considerations of minor importance. The first is with regard to

the conditions of the contract; the second is the fact that other works in the immediate vicinity have been encouraged by the Legislature, which will probably be constructed, and create competition in the carrying trade. It therefore becomes necessary to take into calculation other elements affecting the ultimate value of the Road, that the transportation may not be unnecessarily delayed or taxed. How far the results deduced from these computations are to govern the precise location of the eastern terminus, it is not my province to decide. They have, however, an important bearing upon the practical value of the whole Road.

St. Louis & Iron Mountain Railroad.

MEMORIAL.

To the City Council of the City of St. Louis.

At a meeting of the Board of Directors of the St. Louis and Iron Mountain Railroad Company, held on the 14th inst., the undersigned were appointed a Committee to solicit from the city of St. Louis a subscription of five thousand shares to the stock of said company. The Directors believing that with this sum added to the subscriptions already obtained, they could put the whole road under contract, and provide for its completion at an early day.

The Engineers in the employ of the Company, have lately completed the preliminary surveys for the road, in which thorough examinations were made of all the routes claimed to be practicable; and the one selected is a great improvement upon the line first reported upon—being two 64-100 miles shorter, with 5 feet to the mile less grade coming north, with less curvature, and a saving of seven bridges; which, in view of the character and quantity of freight to be transported over this road, becomes an important consideration.

There are now two parties engaged in a detailed survey necessary to an accurate location of the route, and to enable correct estimates for construction to be made, and if sufficient means can be obtained to justify it, the Company expect to put the road under contract within a few weeks.

The speedy completion of this road is important to St. Louis —indeed, to the whole State of Missouri.—Five-sixths of the iron sold in this market is brought here from Pittsburgh, Wheeling, and other distant points; and more than one million five hundred thousand dollars is sent annually from St. Louis to pay for iron

and nails sold here, besides the cost of pig metal used by our foundries. By constructing this road to the Iron Mountain and Pilot Knob, Rolling mills and Nail factories would soon be built up in our city, and the foreign article driven out by the manufacture of better iron at home.

These manufactures would add to our wealth, and greatly increase our population. Look at Pittsburgh. More than fifty thousand of the population of that city and her suburbs are supported from the manufacture of iron, and the annual product amounts to millions. In Cincinnati about five thousand men are employed in the manufacture of iron, and more than twenty thousand of her population are supported from that source alone.

We have thus briefly alluded to our sister cities in order to practically illustrate what St. Louis may justly expect when the rich ores of Missouri are brought within her reach.

With a geographical location unsurpassed by any inland city in the world—centrally located in the great Valley of the Mississippi —possessing many important natural channels of communication with every part of this valley—with inexhaustible masses of the richest iron ore in her vicinity, St. Louis has but to arouse herself with energy to become the most important iron mart of America. She can not only put a stop to the large importation of iron, nails and castings, which is now necessary to supply our wants, but can successfully compete with our sister cities in supplying the markets of the South and West.

Within the next four months we shall be in the daily receipt of coal from the Illinois Bluffs by three different railroads. And in eighteen months we can have the Cannel Coal from the Osage, brought here by the Pacific Railroad.

With these assurances of an abundance of fuel, we only need the iron to give a new impulse to the manufacturing interests of our city.

By the construction of the Road to the Iron Mountain and Pilot Knob, we can obtain the rich ores of that region at a price that will defy competition, and in quantities that almost defy computation.

From an estimate made by one of the Engineers engaged in surveying the road, it appears that there is ore enough in the Iron Mountain above the level of its base to make one hundred and five million tons of iron. And the Pilot Knob and Shepard's Mountain, and the adjacent banks, would probably furnish a still greater quantity. So that within eighty miles of St. Louis, and within a space of seven miles, we have iron enough to supply the world for centuries to come, without descending below the base of those mountains.

The quality of these ores is well known. For the manufacture

of steel and for all maleable purposes, they have no superior. It is just what we need at this time for our railroads.

But before this iron can be brought into extensive use—before iron manufactures can be built up in our city, increasing our industrial population, adding to our wealth, and securing to us our "boasted destiny" as a commercial metropolis, we must have the railroad to transport the ore to our city. In this opinion every one concurs; and every day's delay in the construction of this road, delays the commencement of a new era in the prosperity of St. Louis.

Build this road, and rolling mills, nail factories, and foundries would soon spring up and find constant employment in supplying our home market. These rolling mills would not be confined to the making of assorted bar iron, boiler plate, &c., but another and important branch of manufacture would be added, to wit: the making of railroad iron.

It will require for the completion of the Pacific Railroad to Kansas, and the south-west branch, sixty thousand tons of rails; for the North Missouri road thirty thousand tons, and for the Iron Mountain road ten thousand tons—making an aggregate of one hundred thousand tons, and costing at present prices, over *seven millions of dollars.*

We ask, shall this money be sent to England to buy an inferior article, or shall it be retained to enrich St. Louis and develop the resources of our own State? But the manufacture of railroad iron will not stop with the completion of the above named roads. The road to the Pacific must be built. Allowing the distance to be two thousand miles, and that it will take one hundred tons of iron per mile, it will require two hundred thousand tons for that road alone—costing at present rates, over *fourteen millions of dollars;* and the making of this iron would give constant employment to three rolling mills for seven years.

The manufacture of railroad iron at this point in sufficient quantities, would be one of the strongest arguments in support of our claims to the starting point in the road to California, that we could offer. Let it be announced that St. Louis is prepared to furnish the rails for this road as fast as the road is graded—rails of superior quality, made from the "famed" Missouri iron, and it will give us advantages that cannot be overcome by the *influence of conventions.*

Other roads are contemplated all around us, including the continuation of the Iron Mountain Road to Little Rock and Fulton, and thence to New Orleans. And a few years will increase the demand for iron to an extent beyond our most sanguine anticipations. St. Louis, if true to herself, will reap the benefits.

There are parties now ready and anxious to commence the manufacture of railroad iron in this city, but deem the completion of

the road necessary to ensure success. Others are more confident, and propose commencing to build at once if the road is to be constructed. And we have good reason to believe that if we put our road under contract this fall, we shall be able to contract for all the rails to be manufactured in St. Louis, and of Missouri iron.

The road and its equipments will cost at the present high prices, about three million of dollars. We have about $800,000 of the stock subscribed. If the city of St. Louis takes a half million dollars of stock, it will give us thirteen hundred thousand dollars. And we expect to obtain from the city of Carondelet, and individuals, one hundred thousand more. With this amount we shall be able to dispose of stock and the bonds of the Company in other markets, to an amount sufficient to complete the road.

The estimate of the engineer, makes the road when built, pay over seven per cent., and these estimates of buiness were only intended to show a seven per cent. stock, and are too low both as to freight and passengers, only allowing 60,000 tons of metal and ore, and 15,000 tons of granite and marble per annum—and other articles in a like ratio.

The granite near the Iron Mountain is of superior quality and beauty; and it is believed that the opening of the road will bring it into extensive use in our city, not only for building purposes but for paving our streets. The expense for the latter will only be that of quarrying and transportation.

This road when built will bring to our market not only the pig metal and blooms made at the points named, but will bring all the ore needed for manufacturing here as well as for shipment to other points—and this last will become an important item of trade —as it has been ascertained that from the quality and richness of the ore, it will bear shipmeut to different points on the Ohio when costing ten dollars per ton at Ste. Genevieve. By railroad it can be furnished at our wharf at three dollars per ton.

The road will pass through the counties of Jefferson, Washington, St. Francis, and into Madison; and will accomodate the lead mines of those counties, and give a new impulse to business. It will also draw the trade of the couuties of Dent, Shannon, Oregon, Ripley, Wayne and Dunklin.

It will also draw the trade of northern Arkansas, that now comes to us by way of Cape Girardeau, which will meet us at the Mountain until our road is extended further south. That the stock will be good paying stock, we do not entertain a doubt. But if it were otherwise, if the city subscription should prove a total loss, it would still be a judicious inve stment if the road be built; as the city would be amply compens ated for her loss in the establishment of manufactures, in the incr ease of her population, and in the increase d wealth drawn from this inexaustible source to be subject to city taxation, and thereby greatly increase her revenue. At this time strong efforts are being made to draw off our produce

trade, and with it to draw the dry goods trade from large sections of country heretofore considered tributary to St. Louis. And these efforts may succeed unless we build up manufactories ; and by furnishing the staple articles that are indispensable, overcome these efforts, and make our rivals tributary to St. Louis.

We have endeavored, thus hastily, to sketch a few reasons why the city should subscribe, and, by her aid, ensure the early completion of the road.

We do not ask this subscription as a favor to the Company, but as securing an important benefit to St. Louis ; one in which the capitalist, the merchant, the mechanic, and the laborer are all interested. If our unparalleled growth, as a city, is to continue, we must have manufactories. If we would defy the competition of rival cities, we must supply the Mississippi Valley with Iron, in its various forms, and that without delay. If we would draw the millions to St. Louis, that will be otherwise sent to England to purchase Railroad Iron, we must prepare to make Railroad Iron here.

In Europe, "the Iron Mountain of America" is considered one of the wonders of the world, and the quality and purity of the ore considered almost fabulous; while here, it has, *so far*, been treated with neglect. While we have such quantities of ore within eighty miles of our city, so pure that it can be made directly into rails, we send to England to buy an inferior article, to be paid for by the shipment of our gold, or the issue of State bonds.

By the prompt action and aid of the city we can soon reverse this order of things, and, in a few years, make St. Louis the Birmingham of America, and add to her attractions as a great commercial centre.

All of which is respectfully submitted:

Wm. M. McPherson,
Wm. H. Belcher,
Thomas S. O'Sullivan, } Committee.

Kentucky and Missouri Railroad Connection.

The following letter explains itself:

St. Louis, 1st July, 1853.

Gentlemen.—Your letter, inviting me to be with you at a *Mass Railroad Convention* to be held at Hickman, Ky., on the 4th of July, was duly received.

Before and since the reception of your favor I have thought and talked much of your enterprise.

Feeling a lively interest in the prosperity of South East Missouri I have been, for several months past, collecting information

by which a system of internal improvements might be established, to redeem and develop that neglected though rich quarter of our State. The more this subject is investigated, the more interesting it becomes. If a spirit of enterprise like that which your citizens are now manifesting were aroused and sustained throughout South East Missouri, its 2,000,000 acres of Swamp Lands would soon be converted into gardens as inexhaustible in fertility, beautiful in prospect, and as abundant in productions as those of Holland; and its central portion, besides abounding profusely with various kinds of minerals, would be freely acknowledged to embrace, in the words of one of our Statesmen, "100 miles of the richest iron deposits on the globe."

To display fully the information obtained of this undeveloped mineral and swamp region, and the system of internal improvements deemed most advisable for its welfare, would lead me beyond the proper limits of this letter.

I will take the liberty however to state that I have advocated the construction of a Railroad from St. Louis *via* the Iron Mountain to Chalk Bluff, as a link in the Mississippi Valley Railroad, which is projected to unite the city of New Orleans with the Falls of St. Anthony. At the same time I have advocated the construction of a branch from Chalk Bluff to New Madrid.

The reasons for advocating this branch of the system of Internal Improvements for South East Missouri are founded, and, as I am convinced, *firmly founded*, on the information above alluded to.

New Madrid is only about 17 miles, on an air line, from Hickman. As a portion of the system for the reclamation of the swamp lands, a levee might be built on or near an air line from New Madrid to a point on the Mississippi river opposite Hickman. This levee would be a bed already prepared for the rails of the road, and by this short and easy extension of the system heretofore earnestly advocated by me, the connection between Hickman and St. Louis *via* the Iron Mountain would be established. This little link of 17 miles would also connect Hickman with the Cairo and Fulton Railroad, passing by the heart and throughout the body of the State of Arkansas, which road has been surveyed through Arkansas by the Government of the United States, and for the construction of which a grant of public land has been made.

But although Hickman would thus become interested in the Arkansas portion of the Mississippi Valley Railroad, that portion of

it between Chalk Bluff and the Falls of the St. Anthony would be more directly beneficial to Hickman by virtue of its connection with the Mobile, the Savannah and the Charleston roads.

The Legislature of Minnesota, last winter, chartered the Louisiana and Minnesota Railroad Co. In Iowa conventions have lately been held in favor of the extension of the North Missouri Railroad.

The North Missouri Railroad Co. have obtained about $1,000,000 subscription to their stock, and $2,000,000 State credit, the cost of building it being estimated unsurveyed at $4,500,000, its length from St. Louis to Iowa 250 miles. The Iron Mountain Railroad Co. have obtained about $800,000 subscription to their stock, and $750,000 State credit, the cost of building it from St. Louis to the Iron Mountain on surveys made by the Co., and partly located, being estimated at about $30,000 per mile, and its length 80 miles. Total cost about $2,400,000. The balance to Chalk Bluff unsurveyed except on Capt. Barney's route, being estimated at $2,000,000 total cost, and length 80 miles. The Missouri portion of the Mississippi Valley Railroad is thus estimated at a cost of $8,900,000, and its length 410 miles. Means provided $4,550,000.

These statistics are offered instead of an argument in favor of the Mississippi Valley Railroad, as they condense light on the subject, and show the faith of the people in the cause.

The connection between this road and the Mobile and Ohio road at Hickman is one of great importance to the interest of both, and when the connection is established between Griffin, Ga., and Decatur, Ala., Hickman will we only a little more than 100 miles further from Savannah than from New Orleans by railroad, and Charleston only an hour or two further than Savannah. Therefore not only Mobile but Savannah and Charleston too will become interested through Hickman with this heart of the Mississippi Valley.

I regret that engagements here will prevent me from being with you on the 4th; but hope that the movements you are making to connect the system of Railroads in South Eastern United States with the Mississippi Valley Railroad, will be perseveringly continued, until your project is freely acknowledged to be a fixed fact, and the prosperity of Hickman is firmly established.

Very respectfully,

HENRY COBB.

Messrs. E. B. Fuqua and others, Committee of Invitation.

STATISTICAL DEPARTMENT.

Statistical view of the commerce of the United States, exhibiting the value of exports to and imports from each foreign country, and the tonnage of American and foreign vessels arriving from and departing to each foreign country, during the year ending June 30, 1852.

COUNTRIES.	COMMERCE.				NAVIGATION.			
	VALUE OF EXPORTS.			Value of imports.	AMERICAN TONNAGE.		FOREIGN TONNAGE.	
	Domestic produce.	Foreign produce.	Total.		Entered the United States.	Cleared from the U. States.	Entered the United States.	Cleared from the U. States.
Russia	$1,061,748	$138,732	$1,200,489	$1,581,620	12,009	10,006	1,477	3,045
Prussia	93,233	153	93,386	21,263	383	295	.....	1,558
Sweden and Norway	732,846	25,322	758,168	775,448	3,511	3,640	16,854	6,547
Swedish West Indies	90,802	1,993	92,795	4,284	721	2,287	120	125
Denmark	93,009	22,643	115,652	16,611	335	374	748	3,916
Danish West Indies	810,439	120,697	931,136	191,745	14,292	20,408	9,062	6,581
Hanse Towns	6,195,927	681,030	6,876,957	8,171,411	27,058	27,521	140,478	87,500
Oldenburg	.....	.....	.....	.....	.....	.....	.....	378
Holland	2,292,848	204,681	2,497,529	1,635,561	14,927	18,759	15,556	22,923
Dutch East Indies	142,997	181,185	324,182	1,015,994	7,551	3,689	1,100	14,022
Dutch West Indies	299,679	17,766	317,445	552,561	15,119	4,977	10,693	715
Dutch Guiana	83,952	7,282	91,234	86,738	6,698	6,262	2,084	944
Belgium	3,202,767	1,001,003	4,203,770	2.054,043	15,982	34,705	15,538	5,940
England	107,788,657	4,536,185	112,324,842	88,119,859	749,818	672,488	413,103	396,017
Scotland	,44 1, 148	230,635	2,671,783	2,355,947	21,695	19,856	71,650	22,288

Ireland	573,250	100	573,350	152,533	5,458	4,116	69,411	9,460
Gibraltar	229,302	49,157	278,459	105,853	642	7,578	1,557	1,802
Malta	96,347	16,975	113,322	114,364	916	2,442	418	453
Hanover	5,906	.....	5,906	.....	.....	.....	447	.....
Mauritius	11,520	.....	11,520	.....	.....	.....	.....	786
British East Indies	565,138	39,360	604,498	4,225,041	42,910	52,763	2,964	7,730
Cape of Good Hope	224,236	1,718	225,954	190,798	1,863	4,343	773	612
British Honduras	292,813	69,259	362,072	261,646	4,775	5,020	2,576	2,440
British Guiana	742,286	18,381	760,667	43,943	3,304	12,123	1,304	3,712
British West Indies	3,512,133	79,956	3,592,089	1,030,537	70,085	99,470	40,125	38,097
Brit. Amer. Colonies	2,650,134	1,141,822	3,791,956	1,520,330	63,887	122,809	337,050	544,518
Canada	4,004,963	2,712,097	6,717,060	4,589,969	774,878	765,945	591,569	589,345
Other Brit. Colonies	.....	3.966	3,966	.....	.....	.....	.....	.....
Australia	196,554	11,713	208,267	.....	4,367	9,318	6,791	17,016
Falkland Islands	7,363	1,177	8,540	.....	.....	208	.....	.....
France on the Atlantic	20,793,878	1,721,441	22,515,319	24,195,914	184,041	187,965	35,370	11,085
France o. t. Metiter.	1,396,192	79,134	1,475,326	1,694,352	9,201	26,798	11,398	6,517
French West Indies	429,846	25,598	455,444	46,287	8,036	16,955	3,043	2,119
French Guiana	64,747	1,278	66,025	32,422	1,526	1,783	.....	.....
Miquelon & French Fis	.....	.....	.....	524	165	497	.....	1,587
Bourbon	.....	.....	.....	.....	.....	.....	.....	588
French Poss. in Africa	.....	.....	.....	.....	.....	.....	.....	93
Spain on the Atlantic	498,314	28,208	526,522	342,096	12,445	10,968	7,661	8,406
do. Mediterranean	2,718,504	114,237	2,832,741	1,443,975	12,113	6,174	13,506	37,631
Teneriffe & oth. Canar.	16,471	45	16,516	51,615	837	793	548	1,133
Manilla & Philippine	211,791	9,927	221,718	1,522,646	12,513	11,039	687	6,262

Continued.

COUNTRIES.	COMMERCE.				NAVIGATION.			
	VALUE OF EXPORTS.			Value of imports	AMERICAN TONNAGE.		FOREIGN TONNAGE.	
	Domestic produce.	Foreign produce.	Total.		Entered the United States.	Cleared from the U. States.	Entered the United States.	Cleared from the U. States.
Cuba	5,803,196	714,355	6,517,551	17,861,728	441,418	370,306	48,537	22,780
Other Span. W. Ind.	1,015,563	39,543	1,055,105	3,001,225	58,885	35,010	12,061	5,544
Portugal	234,064	4,129	238,193	266,864	1,918	6,307	4,705	6,333
Madeira	87,932	7,480	95,412	90,003	1,021	4,171	166	596
Fayal & other Azores	17,766	1,386	19,152	29,346	2,816	1,447	1,079	686
Cape de Verde Islands	54,425	9,651	64,076	18,129	588	1,623	237	1,152
Italy	1,573,852	205,342	1,779,194	1,234,905	.....	.....	.....	.....
Sicily	55,649	10,890	66,539	606,541	22,990	6,609	12,780	3,427
Sardinia	769,209	42,286	811,495	74,901	821	13,443	6,136	6,669
Tuscany	17,697	.....	17,697	210,589	11,098	1,302	4,159	235
Ionian Islands	.....	.....	.....	.....	416	.....	208	.....
Greece	.....	.....	.....	23,591	.....	.....	502	.....
Trieste & Austr. ports	2,403,530	329,889	2,733,419	308,749	1,502	14,024	1,658	13,400
Turkey	265,825	50,371	316,196	556,100	6,857	3,909	654	322
Hayti	1,479,326	239,577	1,718,903	1,870,672	36,871	32,365	6,821	7,320
Mexico	1,406,372	878,557	2,284,929	1,649,206	27,046	29,719	12,780	17,974
Central America	386,136	87,382	473,518	368,355	51,139	54,586	1,357	5,888
New Grenada	1,298,236	217,558	1,515,794	750,527	191,401	183,375	4,633	5,158
Venezuela	726,024	67,389	793,413	2,021,864	16,361	11,244	3,311	3,109
Bolivia	210,705	.....	210,705	.....	.....	646	.....	.....

Brazil	2,782,179	238,863	3,021,042	12,230,289	83,428	59,454	23,156	5,718
Cisplatine Republic	181,156	11,917	193,073	49,707	790	2,906	1,718	3,537
Argentine Republic	518,007	281,110	799,117	2,091,097	13,453	13,711	4,872	4,381
Chili	2,043,836	295,297	2,339.133	2,072,160	23,165	21,386	25,386	23,402
Peru	333,794	22,048	355,842	694,892	29,014	5,179	18,075	11,331
China	2,480,066	183,111	2,663,177	10,593,950	52,076	67,264	26,009	21,507
Liberia	.....	.....	.....	.....	.....	531	.....	.....
Patagonia	.....	.....	.....	.....	514	245	1,958	630
West Indies generally	72,208	.....	72,208	.....	.....	.....	.....	.....
Asia generally	14,049	.....	14,049	131,583	.....	.....	.....	.....
S. America generally	43,291	.....	43,291	113,086	.....	742	.....	.....
Africa generally	1,211,360	34,781	1,246,141	1,057,657	11,381	13,121	1,318	647
South Seas	311,791	21,615	333,406	4,462	5,237	5,281	1,219	326
Equador	.....	.....	.....	70,585	585	.....	.....	760
Greenland	.....	.....	.....	.....	677	2,465	.....	.....
Atlantic Ocean	.....	.....	.....	176	3,807	7,569	.....	.....
Pacific Ocean	.....	.....	.....	.....	20,178	60,680	101	3,773
Indian Ocean	.....	.....	.....	.....	1,194	5,583	.....	306
Sandwich Islands	.....	.....	.....	5,988	12,814	18,624	5,047	6,673
Northwest Coast	.....	.....	.....	.....	.....	1,152	45	.....
Uncertain places	.....	.....	.....	.....	.....	237	1,009	.....
San Francisco, Cal.	.....	.....	.....	4,648,587	.....	.....	.....	.....
Total	192 368,984	17,289,382	209,658,366	212,945,442	3,235,522	3,230,590	2,057,358	2,047,575

TREASURY DEPARTMENT, *Register's Office*, February, 26, 1853. N. SARGENT, Register.

Statement of the commerce of each State and Territory,

STATES.	VALUE OF EX			
	DOMESTIC PRODUCE.			FOR
	In American vessels.	In foreign vessels.	Total.	In American vessels.
Maine	$1597204	$71070	$1668274	$43902
New Hampshire	65233	1971	67204	.....
Vermont	216088	.....	216088	172025
Massachusetts	9022796	5121205	14144001	1527646
Rhode Island	167549	6566	174115	5039
Connecticut	504679	1225	505904	270
New York	50723029	23319552	74042581	9320678
New Jersey	.....	1438	1438	.....
Pennsylvania	3971930	1550519	5522449	260930
Delaware	.....	.....	.....	.....
Maryland	4391692	2122949	6514641	120129
District of Columbia	79005	.....	79005	.....
Virginia	1618093	1103614	2721707	2500
North Carolina	406367	165909	572276	4123
South Carolina	6969817	4700204	11670021	.....
Georgia	1825121	3173894	4999015	75
Florida	1480135	1031841	2511976	.....
Alabama	10390577	6993204	17383581	.....
Louisiana	33469188	15338981	48808169	205936
Mississippi	.....	.....	.....	.....
Tennessee	.....	.....	.....	.....
Missouri	.....	.....	.....	.....
Ohio	145807	207707	353514	.....
Kentucky	.....	.....	.....	.....
Michigan	100436	31930	132366	4338
Illinois	44235	7090	51325	.....
Texas	151766	77568	229334	468799
San Francisco, California	.....	.....	.....	.....
Oregon	.....	.....	.....	.....
Minnesota	.....	.....	.....	.....
Total	127340547	65028437	192368984	12136390

from July 1, 1851, to June 30, 1852.

PORTS.			VALUE OF IMPORTS.		
EIGN PRODUCE.					
In foreign vessels.	Total.	Total American and foreign vessels.	In American vessels.	In foreign vessels.	Total.
$5642	$49544	$1717818	$947926	$147051	$1094977
2254	2254	69458	68661	14658	83319
.....	172025	388113	192593	.....	192593
874852	2402498	16546499	22306206	11198583	33504789
21	5060	179175	191062	10618	201680
.....	270	506174	376278	18397	394675
4121197	13441875	87484456	101476789	30852517	132329306
.....	.....	1438	.....	2491	2491
45192	306122	5828571	9098424	5687493	14785917
.....	.....	.....	.....	.....	.....
33091	153220	6667861	5620114	1099872	6719986
.....	.....	79005	54142	.....	54142
450	2950	2724657	362768	373090	735858
.....	4123	576399	167547	132941	300488
.....	.....	11670021	1742492	433122	2175614
.....	75	4999090	264789	210136	474925
.....	.....	2511976	28757	1956	30713
2123	2123	17385704	233564	354818	588382
44780	250716	49058885	9732977	2324747	12057724
.....	.....	.....	.....	.....	.....
.....	.....	.....	256504	.....	256504
.....	.....	.....	914826	.....	914826
.....	.....	353514	775190	157026	932216
.....	.....	.....	185559	.....	185559
8448	12786	145152	191976	4264	196240
.....	.....	51325	3995	837	4832
14942	483741	713075	65328	12564	77892
.....	.....	.....	.....	.....	4648587
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	1207	1207
5152992	17289382	209658366	155258467	53038388	212945442

Statement exhibiting the number of American and foreign vessels, with their tonnage and crews, which entered into the United States from foreign countries during the year ending June 30, 1852.

FROM	ENTERED.											
	AMERICAN VESSELS.				FOREIGN VESSELS.				TOTAL.			
	Number.	Tons.	Crews.		Number	Tons.	Crews.		Number	Tons.	Crews.	
			Men.	Boys.			Men.	Boys.			Men.	Boys.
Russia	32	12,009	409	6	4	1,477	60	.....	36	13,486	469	6
Prussia	2	383	15	1	.....	.....	.....	.....	2	383	15	1
Sweden and Norway	9	3,511	115	.....	57	16,854	614	.....	66	20,365	729	.....
Swedish West Indies	5	721	34	.....	1	120	5	.....	6	841	39	.....
Denmark	1	335	13	.....	3	748	27	.....	4	1,083	40	.....
Danish West Indies	87	14,929	654	2	28	9,062	333	5	115	23,354	987	7
Hanse Towns	28	27,068	834	.....	347	140,478	5,025	8	375	167,546	5,859	8
Holland	29	14 927	471	.....	49	16,556	477	1	78	30,483	948	1
Dutch East Indies	18	7,551	286	2	4	1,100	15	.....	22	8 651	301	2
Dutch West Indies	80	15,119	610	2	74	10,693	495	3	154	25,812	1,135	5
Dutch Guiana	33	6,698	291	3	11	2 084	84	.....	44	8,782	375	3
Belgium	30	15,982	49	.....	43	15,538	594	.....	73	31,520	1,084	.....
England	875	749,818	21,210	55	633	413,103	14,452	82	1,508	1,162.921	35,662	137
Scotland	41	21.695	640	2	127	71,650	2,351	14	168	93.345	2,991	16
Ireland	11	5,458	176	.....	166	69,411	2,623	2	177	74,869	2,799	2
Gibraltar	2	642	24	.....	5	1,557	71	.....	7	2,199	95	.....
Malta	3	916	34	.....	2	418	27	.....	5	1,334	61	.....
Hanover	.....	.....	.....	.....	2	447	18	.....	2	447	18	.....
British East Indies	81	42,910	1,386	25	8	2,964	138	.....	89	45,874	1,524	25
Cape of Good Hope	6	1,863	69	.....	4	773	35	.....	10	2,636	104	.....
Mauritius	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Honduras	28	4,775	228	1	13	2,576	124	.....	41	7,351	352	1
British Guiana	15	3,374	138	1	8	1,304	64	.....	23	4,608	202	1
British West Indies	385	70 085	3,003	13	296	40,125	2,338	3	681	110,210	5,341	16
Canada	2,442	774,878	32,144	1,060	3,759	591,569	40,960	1,158	6,201	1,366 447	73,104	2 218
British American Colonies	299	63.887	2,316	25	3,769	337.050	18,709	171	4,068	400,937	21,025	196
Australia	15	4,357	.....	.....	27	6,791	.....	.....	42	11,158	.....	.....
Falkland Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
France on the Atlantic	253	184,041	5,403	2	106	35,370	900	4	359	219,411	6,303	6
France on the Mediterranean	22	9,201	321	1	30	11,398	366	2	52	20,599	687	3
French West Indies	60	8,036	383	1	12	3,043	137	.....	72	11,079	520	1
Miquelon and French Fisheries	1	166	8	.....	.....	.....	.....	.....	1	166	8	.....

French Guiana	11	1.526	78	.....	.....	.....	.....	.....	11	1,526	78	.....
Spain on the Atlantic	25	12.445	388	4	21	7.561	270	.....	46	20.106	658	4
Spain on the Mediterranean	57	12.113	477	3	53	13 506	580	1	110	25,619	1,057	4
Tenerifte and other Canaries	4	837	33	1	3	518	22	.....	7	1.355	55	1
Manilla and other Philippine Islands	26	12.513	388	13	2	687	20	.....	28	13,200	408	13
Cuba	1,719	441.418	17,421	63	211	48.537	2,311	5	1,930	489,955	19,735	68
Other Spanish West Indies	359	58 885	2,939	5	78	12 061	618	4	433	70.946	3,258	9
Portugal	7	1.918	54	.....	22	4.7 5	149	.....	29	6.623	203	.....
Madeira	6	1.021	48	.....	1	166	8	.....	7	1.187	56	.....
Fayal and other Azores	13	2.816	124	2	6	1.079	52	.....	19	3.89	176	2
Cape de Verds	4	588	30	.....	1	237	10	.....	5	825	40	.....
Sicily	82	22.990	822	6	55	12.780	581	.....	137	35.770	1 403	6
Sardinia	1	821	19	.....	21	6.136	238	3	22	6,957	257	3
Tuscany	24	11,098	362	.....	14	4,159	162	.....	38	15,267	524	.....
Ionian Islands	2	416	18	.....	1	208	10	.....	3	624	28	.....
Trieste and other Austrian ports	4	1.502	48	.....	4	1 658	69	.....	8	3.160	117	.....
Turkey	25	6.857	276	3	1	654	25	.....	26	7,511	301	3
Greece	.....	.....	.....	.....	2	502	22	.....	2	502	22	.....
Hayti	282	36.871	1,637	7	48	6.821	320	.....	330	43.692	1,9 7	7
Mexico	159	27.046	1.086	3	89	12,720	422	1	248	39.8 6	1,508	4
Central America	103	51.139	1.270	1	6	1,357	17	.....	109	62 496	1,287	1
New Grenada	246	191.401	4,982	1	15	4.633	76	.....	261	196,034	5,058	1
Venezuela	90	16 361	765	8	18	3.311	148	.....	108	19,672	913	8
Bolivia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brazil	301	83.428	3.250	12	90	23.156	972	4	391	106,584	4,22 2	16
Cisplatine Republic	4	790	34	1	7	1.718	55	.....	11	2.508	89	1
Argentine Republic	46	13 453	509	4	17	4.872	181	.....	63	18.325	690	4
Chili	69	23.165	539	3	71	25.386	53	.....	140	48.551	592	3
Peru	71	29.014	945	1	48	18.075	615	.....	119	47,089	1,590	1
China	87	52,076	1,341	1	56	26,009	98	.....	143	78,085	1,439	1
Patagonia	2	514	35	.....	8	1,958	85	.....	10	2,472	120	.....
South America generally	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Africa generally	56	11.381	553	15	3	1 318	38	1	59	1 ,699	591	16
South Sea Islands	29	5,237	156	.....	8	1 219	.....	.....	37	6,456	166	.....
Equador	2	585	23	.....	.....	.....	.....	.....	2	585	23	.....
Greenland	2	677	18	.....	.....	.....	.....	.....	2	677	18	.....
Pacific Ocean	61	26,178	1,572	10	1	101	.....	.....	62	20.279	1,572	19
Atlantic Ocean	21	3 807	455	.....	.....	.....	.....	.....	21	3,807	455	.....
Indian Ocean	5	1.194	129	.....	.....	.....	.....	.....	5	1 194	129	.....
Sandwich Islands	70	12,814	215	.....	36	5.047	21	.....	106	17,861	236	.....
Northwest Coast	.....	.....	.....	.....	1	45	.....	.....	1	45	.....	.....
Uncertain places	.....	.....	.....	.....	1	1.009	29	.....	1	1,009	29	.....
Total	8 964	3.235,522	114,477	1 369	10,607	2,057.358	99,349	1,472	19 571	5,292,880	213,828	2,841

TREASURY DEPARTMENT, Register's Office, February 26, 1853.

N. SARGENT, Register.

RECAPITU

National Character of the Vessels.	Entered.		
	Number.	Tons.	Crews.
			Men.
Russian	22	7,544	290
Prussian	49	17,319	603
Swedish	138	42,401	1,510
Danish	48	10,069	379
Hanseatic	327	132,714	4,523
Dutch	59	18,868	469
Belgian	32	12,467	466
Mecklenburg	6	1,791	69
Oldenburg	19	4,878	207
Hanoverian	20	4,417	176
British	9,381	1,680,712	86,395
French	89	25,992	528
Spanish	144	38,151	1,876
Portuguese	20	4,095	167
Austrian	21	7,644	275
Sardinian	50	14,058	521
Sicilian	36	8,687	401
Mexican	61	6,676	215
Venezuelan	4	922	37
Brazilian	7	2,185	82
Argentine	2	470	19
Cisplatine	2	539	24
Chilian	21	6,095	.....
Hawaiian	29	3,574	.....
Peruvian	10	2,723	14
Tahitian	1	101	.....
Central American	2	730	30
Lubec	3	865	34
Tuscan	3	480	31
Grecian	.....	.....	.....
Chinese	.....	.....	.....
Pontifical	1	191	8
Total	10,607	2,057,358	99,349

Treasury Department, Register's Office, February 26, 1853.

LATION.

	CLEARED.			
	Number.	Tons.	Crews.	
Boys.			Men.	Boys.
1	20	6,997	240	.....
.....	44	14,577	486	.....
1	134	41,994	1,401	2
.....	44	9,618	378	.....
5	308	127,829	4,309	.....
4	70	20,841	488	5
.....	33	11,723	410	.....
.....	4	1,387	51	.....
.....	12	3,319	130	.....
.....	14	3,124	123	.....
1,452	9,231	1,675,400	83,908	1,485
.....	90	27,695	488	.....
6	152	40,710	1,955	16
.....	19	3,915	159	.....
.....	21	7,698	264	.....
3	50	13,505	478	.....
.....	36	8,687	396	1
.....	66	7,037	251	.....
.....	4	1,056	53	.....
.....	9	2,538	86	1
.....	4	966	47	.....
.....	2	397	15	.....
.....	25	7,332	.....	.....
.....	23	2,903	.....	.....
.....	14	3,852	14	.....
.....	1	146	.....	.....
.....	2	730	23	.....
.....	1	293	11	.....
.....	2	318	19	.....
.....	1	416	17	.....
.....	1	381	.....	.....
.....	1	191	12	.....
1,472	10,438	2,047,575	96,212	1,510

N. SARGENT, Register.

LITERARY DEPARTMENT.

Sleeper, Awake!

From the German of Rosegarten.

Sleeper, awake!
See, how the glowing morning
Opens the eastern avenue,
Strewing roses and flowers
Along before the brilliant daughter of heaven.
Sleeper, awake!
Sleeper, awake!
See, the daughter of heaven
Opens her golden eye-lashes.
Friendly she nods,
Lovingly looks
On the tear-glittering flower.
Sleeper, awake!
See, how the flowers blossom!
See, how the garden sparkles!
Hear, how the forest whispers:
Every waving grass-blade
Is a lace of pearls!
Every nodding bush-top
A cluster of gems!
Sleeper, awake!
Sleeper, awake!
Will not the flowing morning song awake thee,
Awaking nature?
Not the lowing of cattle?
Not the neighing of horses?
Not the barking of watch-dogs?
Not the horn of the hunter?
Will not the mighty motive awake thee,
Awaking mankind!
Not the thirst for action?
Not the whisper of love?
Not the trumpet of fame?
Sleeper, wilt thou always slumber?
Sleeper, awake!

THE PLAINS,

By FRANCOIS DES MONTAIGNES, of St. Louis.

CHAPTER NINTH.

Giving the results of sundry experiments of the natural philosophers, as well as a short account of a long and forced march, not mentioned in the programme, nor in any report heretofore published.

"O the naturalist's dreams, how rich they are,
Full of serpents and bats, and spiders so rare,
Bugs, fishes and worms, animalculae queer,
In myriads of genera and species appear:
The gnat and the mastodon curiously mingle,
Whilst swarms of reptilia make his head tingle."
THE SONG OF THE CENTIPEDE.

We were overtaken at this place, (which I shall here denominate, for the sake of easy reference, "*Camp Largesse*,") by the trading waggons of Mr. Doan, of St. Louis; whilst our old friends, the teamsters, who had freighted our surplus provisions thus far, now bade us a cordial good-bye, and jogged back with their lightened teams towards the border: leaving us to speculate and marve much at the surprising manner in which the said surplus had so suddenly disappeared. We had set out on this expedition under the happiest auspices, (as far as provisions were concerned,) and now, with but an iota of the journey performed, our larder, like Cassius, began to look "lean and hungry," whilst we saw our own portly selves in the dim and uncertain future, fast approaching the same unenviable condition. With sugar and coffee we happened to be well supplied; middling was beginning to look up,—whilst flour and crackers seemed on the decline; molasses being already obsolete. Maccaroni and rice, with a few other luxuries, such as tea, pickles, brandy, and biscuits, were, like the butter at *Camp Monopoly*, in the hands of a *few;* cups and saucers never rattled but in one direction, whilst eight or ten rations of thin bacon, with an occasional steak from the beeves driven along in the Caballada, composed the entire bill of fare: entrées, fricassées, ragouts, dessert, and all. The water along the route, so far, had been good enough, excepting where we were compelled to make use of that which had been collected in little holes or ponds in the prairie, where, being exposed to the heat of the sun, during the day, it did not require a great deal of *Bois-de-vache* to boil it. This, that is the water, was generally full of weeds, which gave the coffee made from it a peculiar flavor, which cannot be sufficiently appreciated until enjoyed under similar circumstances. As for buffalo meat, for which the reader has, no doubt, been anxiously waiting, we had not as yet tasted a particle; many of us did not even know what it was; had not seen a buffalo, nor a buffalo calf; not even an *elephant;* nothing as yet but rattlesnakes-in-towns, owls-in-towns, horned frogs by hundreds, and a few scattering antelope. No wild horses or Comanches: nothing but our own patient mules, the Kickapoo party on Cow creek, and a few vagrant Kaw Indians on a thieving and begging expedition. We *did* pass

quite a herd of buffalo skeletons, somewhere about the Little Arkansas or Cow creek, where some or other band of red-skins had had been amusing themselves in a wholesale and wanton slaughter of these rare animals, but as yet, the eye of the packsaddle expedition had failed to discover a single living buffaloe in this magnificent range where he must once have roamed in millions.

It was a sad disappointment, and one not easy to be borne; the veteran voyageurs had been smacking their lips for a week or so, on imaginary ribs and humps, and seemed from their gradually lenghtened countenances to grow unusually serious at this prolonged appearance of their favorite animal. To the green-horns, however, the idea of being *real, live, buffalo-eating Comanches* whizzing like streaks of lightning over the level plains, in pursuit of bands of buffaloe and grizzly bears, became daily more and more insupportable from the long delay; until their recklessness and love of savage life seemed gradually to have oozed out, and dwindled down, like the middling, into a very thin and shadowy remnant.

The fine race-horses, intended to the expedition, but attached either for the chase or the California *carreras*, seemed, on the contrary, to pick up renewed spirit; and, as if detecting the near approach of buffalo, began to snort and prance around with all the fire and impatience of regular trained coursers awaiting the signal for a start. One of these splendid buffalo chasers came very near breaking Francois' leg, and had the poor fellow not been mounted at the time, the blow would have seriously injured him, and put an end, perhaps, to all his explorations, and these invaluable memoranda in the bargain. In this manner we jogged along, over the continually ascending plain, which constitutes the dividing ridge between the waters of the Osage and those of the Arkansas, crossing many little creeks and tributaries of the latter, some being completely dry, and others again full of running water, now camping at a pond full of weeds, and then scooping up the sandy water in a shallow creek, until, after having passed in succession all the Turkey creeks, (little and big,) the little Arkansas, Owl creek, (famous for owls, by the way,) several Cow creeks, (upon one of which Chavez was killed, in 1843,) and a host of other little ravines and creeks, *with* water and *without* water, too tedious to mention, but all famous for something, we finally came in sight of that famous landmark for the trader and traveller,

PAWNEE ROCK.

This is a spot well calculated by nature to form, as it has done, an important rendezvous and ambuscade for the prowling savages of the region, and has often afforded the Pawnees and other roving rascals, a pleasant little retreat or eyrie, from which to watch the passing traders, and pounce down upon them unawares, like vultures, and bear off their plunder and scalps. It is situated too, a sort of debateable land,—being within the range not only of

the Pawnees, but of every Indian tribe, the Osages included, whose pursuits lead them within a radius of a hundred miles. It has, from its position, been a favorite battle ground for hostile bands and tribes, and has several times proved an unfortunate spot for the white man.

Seven Americans were once surprised by a large band of Indians in the vicinity of this noted Rock, and were compelled to retreat to it, for safety. Here, without water, and with but a small quantity of food, they were besieged by their bloodthirsty foes for two days, when a party of traders coming along the trail relieved them from their perilous situation, and the presence of their hostile friends.

There are several graves on the summit, containing, probably, the bones of defunct braves, may be some of the very fellows engaged in that identical besieging party. It has been an unfortunate place for many, according to the most reliable accounts, and lost none of its reputation, in this respect, during the expedition of which we profess to be an humble chronicler.

Immediately before reaching Pawnee Fork, on the East, about a quarter of a mile distant, and lying to the South of the road, there is an extensive and populous town or pueblo of prairie dogs. Happy, jovial little souls, who frisk about like squirrels, subsisting on the roots of grass instead of hickory nuts, which happen to be very scarce just at this spot, rarely drinking much water or anything else, and who reside in little subterranean cavities dug out with much labor and skill, and defended from the overflowing rain by little tumuli or breastworks built around the entrance. This is situated immediately in the centre of the little mound, and descends perpendicularly for several feet, and then branches out like the shafts of a mine, into numerous ramifications and apartments which very few have had the patience or leisure fully to explore.

The top of the mound serves them also as a piazza or porch on which to sit during pleasant mornings and evenings, either to gaze over the surrounding city, or chat with their opposite neighbors; the streets, like those of ancient St. Louis, being laid out on the primeval principle to serve this very purpose; and the entrance into their Esquimaux dwellings being always near at hand, enables them, when wounded or frightened, to disappear with marvellous celerity.

However, as we are not pretending to be fully conversant with the entire economy of this singular denizen of our western plains, having failed, as the reader will discover hereafter, in sundry experiments attempted for this purpose, we will only mention, in addition, what has been repeatedly told us by experienced mountain and prairie men, whose pursuits have enabled them to see a great deal more of the habits of these gregarious and sociable little animals, than the present exploring corps, that, instead of occupying the same burrows or houses with the burrowing owl, (another pe-

culiar fellow, by the way,) or with the rattlesnake, as they are frequently said to do; they are, on the contrary, the most exclusive fellows to be met with. The rattlesnake is a mortal enemy to the dog, and dines most sumptuously on the young and tender pups; sometimes taking possession of and depopulating with his voracity whole wards and municipalities. The dogs are thus compelled to abandon their snug little homes to the serpents, three or four of which may frequently be seen in possession of a single burrow,—and when they finally become tired of the location, and move off to commit further outrage on the defenceless,—the place naturally falls to decay, and becomes the legitimate abode for the spider and the owl. The former erecting his loom within, whilst the latter, an odd and excentric fellow, struts about on the outside, and attempts to mimic with his cracked voice the lively bark of unfortunate and exiled Tray.

The snakes were very abundant in certain places, and as we rode along, we now and then killed them with our gun rods, as they halted beneath us and rattled defiance. One of the company, a firm believer in charms, and famous for collecting curiosities, gathered a sufficient crop of rattles within a distance of forty or fifty miles to decorate his hat band with nearly as many different trophies.

Just as the sun was sinking, this celebrated Rock hove in sight; the great village, I have mentioned, presenting itself in bold relief, on the left, to the astonished gaze of the packsaddle expedition. No lofty tower or sparkling steeple glittered in the evening sun, no giant dome nor marble monument cast their shadows over the place, nor did the deep hum of a great city of many souls strike the ear. But the flat prairie, for many acres roundabout, was thickly sprinkled with little conical hills or houses, perforated with little holes on top for doors, and on each house-top was one or more of the little citizens, perched upright, and keeping up a sharp and continuous cry; more resembling a dry consumptive, little cough than a genuine bark.

We had as yet neither seen nor killed a single buffalo; antelope were scarce, *no* deer, and our fresh meat was becoming dry and hard; game of all sorts was unusually scarce; and never did Balboa gaze upon the ocean with more powerful emotion than did the packsaddle expedition upon the dog town.

Never did the capital of the Montezumas burst upon the eye of Cortez and the Spaniards in more overpowering splendour, than did the dog town, at Pawnee Fork, upon the astonished vision of the enchanted packsaddle expedition.

The very dogs seemed inviting us to their city. *Cheh, chay, cha!—Chah, cheh, chay!* from every house-top. *Chay, chay cha!* from the burgher near by, to the far off and scarcely audible *cha!* at the farthermost limit of the corporation. Every person in town seemed to be out at the celebration, and join with his voice

in the general shout. Now and then a fellow would run down the side of his house, whisk across the street, exchange a few words with his neighbor, whisk back again, disappear for a moment in his cave, and then boldly perch himself on the roof again, to look and bark at the strange visitors to his city.

This was too exciting a scene to stand, and the first intimation the dogs had of any *ukase* concerning their heads, or of any hostile intent, on the part of the explorers, was a furious cannonade upon their devoted town, sweeping their pretty little streets and avenues, and spreading death and destruction on every side.

The ardour of the packsaddle expedition got the better of its judgement, and several of the *vieux voyageurs* themselves, men who had trapped many a precious beaver, and slaughtered many a lordly buffalo, now joined in the ruthless and wanton attack.

The village soon became the scene of a wholesale massacre: taken by storm, the inhabitants were cooped up in their dwellings and *shot at*,* without mercy, on showing either the tip end of a tail or a nose; neither youth, sex nor age was spared in this violent *coup d'etat*† of the packsaddle expedition. The carnage was tremendous, and the reports of the death-dealing rifles sounded over the doomed town like the boom of cannon over *captured, blood-stained Sonoma.*‡ Blood ran like water, and so did the dogs, for, at the click of a trigger, the individual aimed at, disappeared beneath the earth, like a diedapper duck, and left his fate, and whereabouts mysteries to be solved. Francois himself, who of course had participated in the expedition, was confident of having killed two dogs at a single shot, but upon carefully examining the ground, and finding no blood nor dogs, became convinced that he had been deceived either by a mirage or *lusus naturae;* he could not tell which. One thing was plain, the dogs were not there. In a short time, not a single prairie dog was to be seen or heard; all was still throughout the great town, which but a few moments before had echoed with the life and bustle of its thousand inhabitants; and the barbarous invaders now began to move off from the scene of blood, and follow in the wake of the fast receding waggons, bearing away with them three murdered pups, and leaving many more behind, badly frightened, if not seriously wounded.

At the continued report of the guns, the captain imagining perhaps that the Pawnees were at him again, had ridden back with several of his aids, and, after making a *reconnaisance*, patiently halted until Francois and the balance of the forlorn hope, with the three pups, made their appearance.

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* Vide History of Mexico.

† Vide Life of Louis Napoleon.

‡ Vide Conquest of California, by Fremont.

He then very politely informed them that, in consideration of their great services on this occasion, he would not require them to ride on the morrow; that they might dispense with their mules, which seemed somewhat to interfere with free action on such occasions, and that they would be allowed the privilege of performing the next twenty-five or thirty miles on foot, when they would be enabled to practice on the dogs at pleasure, and perform any other small experiments of the sort, suggested during the promenade.

* * * * * *

The dogs were avenged.

We encamped on Walnut Creek, (famous for walnuts, may be,) but a mere ravine in the gently undulating plain, there being no timber of any account in sight, whilst far away, towards the West and Southwest, stretched the beautiful park, with its antelope, its badgers, its owls, its horned frogs, its cactus and its prairie dogs;* a boundless field of wonders calculated to call into action all the science and nerve of the pedestrian octave during the morrow's display.

The heavens, too, as if deprecating the great outrage committed, came down upon the devoted heads of the packsaddle expedition, during the night, and a violent storm of wind and rain overturning tents, and deluging everything, lasted for several hours. The night was as black as India ink, and the fires being all extinguished, nothing could be discerned but by the quick flash of the lightning.

None felt like exposing themselves to the heavy rain, and excepting the beating of the large drops, and the flapping of the tent-cloths in the gale, all was as silent as the camp of Sennacherib. Now and then the lightning discovered a face peering cautiously from beneath the edge of a prostrate tent, apparently examining the clouds for a clearing off, when a violent gust would put an end to his studies, and make him hold on to the protecting canvass with all the tenacity of one in danger of being blown away to some unknown point of the compass.

Morning came at last, and the sun with his ruddy face formed a most encouraging contrast to the dark and damp night. The half-drowned camp spread out their clothes and blankets to dry; the jovial teamsters whistled lively airs, as they threw the harness on their teams, whilst the unfortunate eight, the experimental philosophers of the previous evening, turned loose their riding animals for a day's recreation, moodily shouldered their guns, and prepared to do penance for their unlucky attempts at unravelling the mysteries of the social and domestic economy of the pups at Pawnee Rock.

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* For a full length picture of the prairie-dog, see Charles Lucien Bonaparte's "Continuation of Wilson's American Birds."

In justice to the impartiality of the discerning chief, we may as well mention, that Basil Lajeunesse, a favorite companion in former trips, had been included in the proscription, and, from the way he stalked across the warm prairie during a fast trip of twenty-five or thirty miles, from Walnut Creek to Wolf Creek, beyond Pawnee Fork, shewed himself fully entitled to the soubriquet of *mountain goat*, given him by Captain Fremont in a previous report; whilst the balance, amongst whom was Francois, *of course*, from the manner in which they straggled and browsed along over the buffaloe grass, utterly indifferent to either prairie dogs or rattlesnakes, were just as fully entitled to that of *mountain sheep*.

Towards one o'clock, the foremost reached the eminence whence the Fork may be seen meandering through the flat country towards the left, and after taking in the carcase of a slaughtered antelope shot by one of the pedestrian naturalists, the foremost waggon descended to the crossing.* The sides were very abrupt, and owing to the heavy rain of the night, were yet wet and slippery, the teams requiring the assistance of the men at the wheels to ascend the opposite bank.

The water was only about two feet deep at this crossing, but was very swift.

Concluding from their own wearied condition, that it was high time to camp, the infantry made a short halt at this place, and the wagons ahead doing the same thing, one of the philosophers, who had been trudging along manfully in a pair of light fantastic pumps, came to the conclusion to dispense with their services, and threw them into the creek. To our surprise, and to his consternation, the caravan started again, and continued in motion until it reached a point about five miles further, on a small tributary of the Fork, running in on the South-west, sometimes called Wolf Creek, probably on account of its being famous for wolves, as Francois *himself* saw one of these ferocious animals, about a mile distant, whilst searching for plums in his route up the creek, and evinced his indomitable *discretion*, by taking a stampede in the direction of camp, whilst the wolf shewed *his*, by taking to his heels in a contrary direction. With the exception of Jeams, who had thrown away his pumps, the eight peripatetic philosophers arrived in camp, in good order and condition, after having, during this arduous campaign, acquitted themselves not only to their own satisfaction, but to that of the entire packsaddle expedition.

* From the great height of the country, in the proximity of these Crossings, a view of the surrounding region for many miles is commanded, and the spot, on this account, has been a favorite point of attack for hostile Indians, in their depredations on passing trains. As early as in 1831, young Minter, a clerk in the employ of Messrs. Smith and Sublette, was killed in sight of his companions, whilst encamped in this very locality.

Columbus.

From the German of Schiller.

BY H. OF ST. CHARLES.

Steer, adventurous sailor! Although the witlings deride thee,
And the weary hand of the pilot drops from the helm.
Always on toward the West! The shore will there be found lying;
There it is surely as 'tis glit'ring before thy mind's eye.
Trust thy guardian Genius, and pursue the still voice of the sea:
Were the New World not born, 'twould now mount out of the waves.
Nature, by an immortal contract, stands up to genius.
What is promised by one, the other will surely fulfill.

New Periodicals.

THE MINING MAGAZINE. *Devoted to Mines, Mining Operations, Metallurgy, &c.* Edited by WILLIAM J. TENNEY, New York.—The country has long needed a well conducted journal representing the mining interests of every part of the Union, and we are gratified in the conclusion, that its wants, in this respect, are likely to be supplied by the *Mining Magazine*, and we most cordially commend it to the patronage of the public as a valuable addition to the industrial literature of the age. The matter contained in the first number is well selected, and the mechanical department neatly executed. The Magazine is of the octavo size, and the number before us contains ninety-six pages. Price $5.00 per aanum.

THE FARM AND GARDEN. *A monthly Journal of Agriculture and Horticulture.* Containing thirty-two octavo pages. Published by ALLEN & Co., New York, at $1.00 per annum.—The work is executed in beautiful style, and, in our judgement, the matter is, to say the least, not excelled by that of any agricultural journal in the United States. Every gentleman of taste, whatever his profession, should subscribe for the work.

THE WESTERN PLOW BOY. *A Chronicle of Rural Affairs.* R. D. TURNER, Editor and Proprietor. Fort Wayne, Ia.—This journal promises to be a valuable addition to the agricultural literature of the West. We wish the able Editor success in his laudable enterprise.

VALLEY FARMER.—The August number of this *old pioneer* is before us, filled as usual with interesting matter. To the farmers of Missouri we say come up to the support of this valuable work. Its Editor has battled manfully for years against the difficulties of establishing an agricultural journal in the West. He has labored faithfully in your cause; he and his works are worthy of your patronage.

THE

WESTERN JOURNAL

and Civilian.

VOL. X. August, 1853. No. V.

ARTICLE I.

Agricultural Education.

In no other view does man approach so nearly the similitude of Deity as when regarded in the light of a being capable of enlarging the sphere, and multiplying the means of his own happiness. When contemplated in this light, his stature assumes dimensions proportioned to the grandeur of the objects for which he was created, and he stands forth endowed with faculties, and clothed with powers approximating infinitude. He cannot create the elements of matter, nor alter the laws which regulate the Universe, but he may change the normal relations of the elements constituting the globe which he inhabits, and by combinations originating in his own mind evoke new forms, and create agents correspondent to his wants, and compel them to do his bidding. He may arouse the constituent elements of the vegetable kingdom from their repose in the earth, and liberate those which have been confined in the solid rock since the dawn of creation, and bringing them forth into the light and genial warmth of day, nurture them into life and fruitfulness. He may cause many blades of grass to grow where nature produced but one, and clothe the barren places of the earth with waving corn, fruitful trees, and the generous vine. By skillful culture he may impart new properties to noxious plants changing their acrid qualities to delicious flavours, and their poisons to wholesome nutriment.

By the intelligent and active exercise of these powers he enlarges the volume of human subsistence, and ameliorates and improves the mental and moral condition of the race, while he multiplies their numbers.

The work of producing these sublime results so suggestive of creative power has been confided chiefly to the tillers of the soil, and upon their intelligence and industry the numbers and condition of the human family mainly depend. This is a grave, a fearful responsibility imposed upon the agriculturist, but there is encouragement in the reflection that his rewards are fully equivalent to the duties required at his hands. Just conceptions of the nature and extent of man's powers, and of the laws which govern the operations of nature, constitute a perennial source of human enjoyment; and the agriculturist in his vocation occupies the most favorable of all positions for observing the influence, which mind is capable of exerting over matter. Here it is his privilege to labor and study in open view of the ever changing relations and aspects of physical objects, and note with precision the results produced by his own agency.

Transmutation is an established order of nature, the process by which organic forms and substances are produced and quickened into life; and the art of agriculture consists chiefly in modifying this natural process.

Behold : the earth is one common repositoryof organic remains, —animal and vegetable—the debris of extinct generations. Can these bones live? It is the office of the agriculturist, to collect these scattered remains, and by certain combinations vitalize and restore them to life, giving them forms more beautiful, and qualities more excellent, than those which they possessed in their former state of vital existence. Note the process. Mineral substances being combined with organic remains in due proportions, he pulverizes the mass, making it pervious to light and genial heat, to moisture and atmospheric air, bringing these various ingredients and agents into friendly union, that each may act its appropriate part in the great work about to be performed. Thus prepared, seed containing the vital principle of plants are buried beneath the surface. Anon, the process of transmutation begins. By the combined agency of heat and moisture the solid food provided by the parent plant to nourish and sustain its infant offspring is softened and dissolved; the dormant principle of life now awakes, and eager to return to the living world, the diverse elements of the dead mass rush to embrace the quickened germ, and yield themselves as food to the young and tender plant. Its roots go forth to feed in the pasture prepared by the husbandman: the stem rises above

the surface, unfolds its leaves, absorbs the light of day, and breaths the vital air. The plant grows a pace; attains pubescence; and moved by the procreant principle reveals its dual nature: male and female. The season of love ensues: the nuptial feast approaches. And now, decked with flowers bright and pure as thoughts of heaven, nature celebrates the hymenial rites, and rejoices in their consummation. Fruit succeeds; the parent transmits the vital principle to its offspring; and having performed its mission, dissolves into earth and air; again to take its place amongst the dead, and again to return to life, obedient to the call of man.

This series of transmutations is no poet's dream, no creation of the fancy to amuse the vacant mind, or empty show to attract the idler's gaze. It is the unfinished work of creation confided to the charge of man, when God rested from his labors, and said: "Be fruitful, and multiply, and replenish the earth, and subdue it."

Contemplate the results. Corn, and wine, and oil, to strengthen and make glad the heart of man, and cause his face to shine; materials to clothe and adorn his person; and fruits and spices to gratify his senses, fill his stores to repletion, demanding a multiplication of the race to enjoy the bounties of the season.

Another series of transmutations succeeds. The nutritious substances and fruits produced by agriculture constitute the subsistence of a race higher in the scale of intelligence and moral virtue, than the wandering tribes who rely upon nature alone to supply their wants. Hence the earth is replenished with a new order of beings, and as their numbers increase, the nomadic tribes perish at their approach; their hunting grounds change to fruitful fields; and where unassisted nature sustained but one savage, an hundred of the civilized race rejoice in a comfortable subsistence drawn from agriculture and kindred arts.

Thus, as inorganic matter when brought in contact with the vital principle of plants, is transformed into fibre, foliage, flowers and fruit, so these when brought into certain relations with the vital principle of man, are changed to blood, bones and muscles. To trace out this second series of transmutations would be but a recital of the first. The ingenious plowman will perceive the analogies without the repetition; and while he contemplates the sublime economy of nature, and himself—the agent and apparent object of her chief operations—he will feel exalted by his vocation and ex-

perience a sense of dignity arising from his elevated position in the scale of created beings. These views of the transmutations of matter will lead him to trace the analogies and relations between the physical and moral world; whence he will perceive, that like plants, the moral nature of man requires cultivation to meliorate and improve its normal state, and that its progressive developments depend upon intellectual improvement and the progress of knowledge in whatsoever tends to augment the means of human subsistence.

Reverting to the history of the race he will comprehend the reason why the social principle has been so long subjected to the selfish; why the chief aim of mankind, individually and collectively, has been to appropriate to themselves not only the natural products and possession of the earth, but also the fruits produced by the labor of other hands than their own. Here he sees men transformed to demons, rebelling against the primal injunction, and waring against each other for the spontaneous productions of nature. Pending their fiendish struggles, a few families driven into peninsulas and islands, and confined to those localities by their enemies, are compelled to resort to agriculture for subsistence; the arts of civilization spring up as a natural consequence; the moral and social principles begin to be developed, and growing in strength, civilization enlarges its borders, gaining a foothold upon the adjacent continent. But being compelled to guard the fruits of their toil against the ravages of barbarians, the art of war becomes a necessary concomitant to the arts of peace. While small in numbers compared to their enemies, it was natural that the agriculturist should feel grateful to those who bravely and successfully defended his home: the soldier was hailed as the savior of the commonwealth, and war regarded more honorable than labor. Hence antagonistic interests and social distinctions were established, and in time the tillers of the soil became the bondmen of those who defended it against foreign aggression. Laboring in a vocation thus degraded in the estimation of mankind, and struggling against an armed adversary who subsisted on the fruits of their toil, many ages elapsed before agriculture acquired sufficient strength to control the policy of nations, or to make its votaries respectable even in their own estimation.

Looking to the future, the hopes of the enlightened philanthropist are based chiefly upon the advancement of agriculture. Judg-

ing from the improvements made in his own day, his imagination assigns no limits to the productions of the earth, none to the number of its inhabitants. Tracing the successive developments of physical science he sees man engaged in the pursuit of higher objects than the subjugation of nations by war, and cherishing nobler aspirations than a desire to live without labor. He justly concludes that, as men advance in the knowledge of agriculture, the burthens of labor will be lightened until the pursuit will be regard merely in the light of a science involving no more labor than will afford agreeable exercise to its votaries.

Grant the attainment of these views, and the moral and social condition of the human family will have undergone a change as complete as the transmutations of matter. For whilst the process which increases the products of the soil, improves the qualities of its fruits, it also removes many causes of disease; and hence the enjoyments of life will be hightened, the period of individual usefulness prolonged, the occasions of grief and vexation become less frequent, and the temper of the mind being improved, social like individual enjoyments will become more pleasing and permanent.

The causes of war having ceased, commerce, the offspring and agent of agriculture, will distribute its products throughout the earth, and the inhabitants of every clime feasting at one common board shall proclaim their grateful thanks to one common parent.

But what shall be said in answer to the doctrines of the political economists who live in terror of famine arising from increase of numbers? It is a humiliating truth that all ages have furnished instances of human suffering from this cause, and more humiliating still that they should occur in our own day; but there is reason to fear that such instances will continue to occur until a more enlightened order of teachers shall rise up to instruct the tillers of the soil. In the mean time, however, let man study the laws of nature, labor diligently, and act justly, and then they may safely rely upon the wisdom and benevolence of Deity to avert the horrors of pestilence and famine.

The command, to be fruitful, and multiply, and replenish the earth, was given to Noah and his sons, with a blessing, and without limitation; and did man conform to the laws of the Creator, in other respects, obedience to this injunction could never be attended by evil consequences to the race. Man blunders in his designs, but nature never. By investigating her laws, and con-

forming to her dictates, his desires and conduct are brought into harmony with her operations; and were it possible by the aid of science to reach the utmost limit of the earth's capacity to yield subsistence, the physical, intellectual and social character of man would doubtless conform to the condition of the earth; and the danger from famine still be as remote, as when the progenitors of the race occupied the garden of Eden.

All the discoveries and improvements of the age combined, are as dust in the balance when compared to the improvements required, and attainable in agriculture. Railroads and steamships facilitate commercial and social intercourse, exchange the products of distant lands, and extend the sympathies of the human family; and improvements in machinery greatly multiply the means of human comfort without increasing the burthens of labor. These improvements all tend to augment the numbers of the race, and to enlarge the area of civilization; but without improvement in the science of agriculture their benefits must be transient. The increasing demand upon the natural fertility of the earth will hasten the exhaustion of the soil, and the improvements from which so much is expected by the friends of human progress will disappoint the hopes of the philanthropist, unless sustained by a corresponding advancement in the science of agriculture.

A subject so deeply involving the destiny of the human family, claims their highest consideration, and invokes the countenance and substantial patronage of all civilized governments. The tillers of the soil need no bounties, no peculiar privileges: they only need instruction in the elementary principles of their vocation—to have their minds directed to the investigation of appropriate subjects, and their taste for the beautiful in nature cultivated and improved.

The physician, the lawyer, and the divine, all receive instruction at institutions founded for the benefit of their respective professions; but there are no institutions, we believe, in our country where a thorough agricultural education can be obtained. The farmer is left to grope his way in the dark, and not one in a thousand possesses knowledge respecting the constituents and peculiar combinations of his soil sufficient to enable him to select the right kind of fertilizers, and apply them in proper quantities. Hence his experiments, if not total failures, are unprofitable, and becoming discouraged he proclaims scientific farming a fallacy,

and settles down upon the old system of exhausting his land, and purchasing more when its cultivation ceases to be profitable. It requires no prophet to predict the destiny of a country whose inhabitants cultivate the soil upon this principle: its population and wealth soon reach their maximum, and then unless it possess other important resources, both must decline.

This subject has been so frequently discussed in the "Western Journal," and presented in so many views, that we cannot pursue it further without danger of reiterating what has already been published. We shall, therefore, proceed to suggest the object aimed at in the present paper: *Agricultural Education.*

A knowledge of geology, chemistry, meteorology and the physiology of plants may be regarded as essential to every individual who undertakes the management of a farm. And we insist that it is the duty of every State to give substantial and efficient encouragement to the study of these departments of science. The elementary principles relating to agriculture, if judiciously arranged, might be introduced into common schools with great benefit to those who have not the means of obtaining a more thorough course of instruction. But the first step towards the introduction of a system of agricultural education is the establishment of an AGRICULTURAL COLLEGE, where no other branches of learning should be taught than such as relate to the cultivation of the soil. A farm must necessarily be connected with the institution, for the soil, the plants and the atmosphere are the subjects to be observed and operated upon. It is only by experiments made upon these that the benefits of the science can be properly illustrated. Besides the more solid benefits to be derived from such an institution, it would raise agriculture to the rank of the learned professions, and give it a dignity in the estimation of common minds, which it has not possessed since the more palmy days of Rome.

We bring this subject to the notice of our readers at the present time, with the hope that the Missouri State Agricultural Society and the County Agricultural Societies will, at their annual meetings shortly to be held, take the matter under consideration, and make public their views touching the policy of establishing an agricultural college, in Missouri, to be erected and endowed by the State.

We may be allowed to observe, in connection with this subject, that a strong disposition has been manifested in and out of Con-

gress within the last two years, to make liberal donations of the public domain, especially to the old States, for purposes of education; and we respectfully suggest the propriety of urging upon Congress the just claims of Missouri to a liberal grant of lands, to aid in establishing an agricultural college in this State.

The State Agricultural Fair, to be held at Boonville, early in October, will attract the intelligent farmers from every part of the State, and afford a favorable opportunity of obtaining the sense of our citizens upon this important subject.

We rejoice in the spirit of improvement recently manifested by the farmers of Missouri, and appreciate the benefits which may be derived from agricultural societies and exhibitions. They may do much to advance the art, but little to improve the science of agriculture—this must be taught as other branches of learning before the most important of all industrial pursuits can be placed on a solid foundation. Entertaining these views, we are impelled by a sense of duty as public journalists, to urge upon the agricultural associations of Missouri the propriety of memorializing Congress for a grant of land in aid of an Agricultural College in our State. If this should be denied, then let them be prepared to bring the subject before the next General Assembly of the State, supported by an expression of public sentiment, that will insure success.

ARTICLE II.

[From the Mining Magazine.]

Geology of the Sierra Nevada.

BY PROF. JOHN B. TRASK.

Continued from page 255.

MINING RESOURCES.

Under this head will be included all those branches of employment within the district alluded to, as well also as those which must, from the nature of attendant circumstances, find a place in the history of our resources.

First in order will be the mineral lands, or those which contain gold. These will be divided into two classes:—First, those at present occupied; and Second, those unoccupied, and, from present circumstances, unavailable.

The first class comprehends all those lands within the mountain districts which are situated on the rivers and higher valleys, also in the ravines and mountain gorges of the western flank of the range.

The range that they occupy through the country may be approximately stated to be not far from 50 miles in breadth by about 350 in length; a small proportion of this, however, can be considered mining ground—probably about one-third. Within the mining districts proper there are large quantities of land which are known to contain gold, and in quantities sufficient to warrant considerable expenditure of capital for the purposes of mining in future. These lands are not, at the present moment, available, from the want of that necessary agent, water; and it remains but to be seen that capital investments in hydraulic operations in this country is a safe and profitable source of income, and the unemployed moneys of the Atlantic States, Europe, and our own State, will seek and find a ready market in the various branches to which this source of profit will give rise. A longer period than the present year will not be required to demonstrate this fact, either for good or ill. The present year will be productive of results that cannot fail to convince the most incredulous of the value of those untouched resources of which it has been our pride to boast, and in the full consciousness of truth. Nearly all those companies that are at present in but partial operation, have demonstrated the utility of the system; and from what we have already seen, even in their immature state, we may confidently anticipate what the future will be when those operations arrive at completion. Should they prove of one half the value they now promise, the area within the mineral districts proper that would be open to those operations, now unemployed and useless from the want of water, and which are known to contain gold in profitable quantities, will nearly equal the present area employed.

It will require, then, on these premises, no great tension of the imagination to discern, that within the next two years our mining sections must contain a population full one half greater than they at present occupy. This estimate is exclusive of those discoveries which have been made within the last six months, and which only confirm the opinion formerly entertained, that the placers existed in sections remote from those now known. These later discoveries are situated mostly in the northern district, and the only obstacle presented to their profitable occupancy is large numbers of hostile Indians in these vicinities, particularly in and about the regions of Pitt River. It will be sufficient to state, that the unoccupied placers within the mineral districts proper are coextensive with the mineral range now occupied. This unoccupied mineral land may properly be divided into two distinct sections, and to this second section we would now call your attention.

SECOND SECTION.

This district of country is situated in the lower foot hills, and immediately on the eastern edge of the valley; it maintains a very uniform width of about four miles, and is almost uninterrupted throughout the principal portion of the valley district. A large part of the mineral section of Sacramento county is a true example of these sections, though the principal range alluded to is a short distance west of those parts in which mining operations are conducted in this county at the present time.

This district is strongly marked throughout its entire extent, and the transition, either from the valley or mineral district proper, is such as cannot fail to attract the attention of the most careless traveller in passing over it. It will recur to the mind of every one who has passed from the rivers to the interior, that at the distance of some 12 or 14 miles from the streams, that you enter very suddenly a district thickly covered with *angular* pebbles of quartz; the district is scarcely less than two miles in width in any part of it, and in some localities much wider. On reaching the eastern verge of the valley, the transition is equally sudden as in the first instance; the *angular* pebbles disappear, and a few round pebbles, mixed with alluvium, replace them, for a short distance, which is immediately succeeded by the outcrop of what has been denominated the "*gravestone*" slate, from the appearance they present of a ruined churchyard, in nearly all the lower hills on the eastern edge of the valley. From what the author has seen of this district, I feel no hesitancy in saying that it must in a few years become the field of busy and extensive mining; and I think this opinion will meet the concurrence of those persons who are intimately acquainted with the localities named, and engaged in these operations at the present time within their limits, although these operations are comparatively limited at present. Rhodes' Diggings, Sacramento county, and Ousley's Bar, Yuba county, are on the eastern verge of this range, and Neal's Diggings, on Butte Creek, Butte county, also; and to those who are acquainted with these localities we would respectfully submit the opinion advanced.

It is not to be understood that this section of country will prove so highly productive in a short space of time as the more puperficial and richer deposits of the interior sections, nor can it be, with any degree of propriety, expected. But, as a compensatory principle, they will possess the double advantage of being much more accessible, and yielding a lower but far more continued remuneration for labor, and a surer prospect of success. A more healthy and stable condition of the mining population will be the result of bringing these lands into successful operation; a desideratum much desired in this country.

THE QUARTZ FORMATION.

This subject will next claim our attention, and our brevity on the subject will be found in our limited time.

In speaking of the rocks that compose our mountains, this formation was intentionally omitted, and a brief description of this group, therefore, will be given at this time. The quartz formation forms an important point in the various groups that abound in this country; not so much in proportion of its masses, as they are small when compared with almost any other member of the plutonic series. The comparative range of country which they pass through cannot be considered as amounting to more than one-twelfth (1-12) of the width of the mountain range. The area that they occupy is also very small, compared to the rocks they pass through, being composed of small veins and dikes, cutting other formations, both igneous and sedimentary. The largest masses of the rock are found in the form known as *dikes*, which are at times nearly continuous above the surface for miles, in other cases interrupted on the surface at short distances. The largest dike ever observed by the author did not exceed forty yards in width, while the principal formation adjacent, and through which it passed, was nearly as many miles. It must not be understood by this that the amount of its aggregate is trifling, except in a comparative view with other formations, for its veins are found in most of the other rocks of the country, and as variable in size as in number.

These rocks throughout the country present many and distinct phases. On close examination they are found to be a disturbing and intrusive rock; while, in other cases, a feature the reverse is presented, they being disturbed by other rocks; and still another feature is often present, and frequently in the same locality; thus it is that some veins appear to have been unaffected, while adjacent veins are much disturbed and broken down.

With these premises before us, it would seem impossible to refer the entire group to one period, for the facts presented would remain unexplained, while many of the attendant discrepancies that have attached themselves to those operations which have resulted in loss and disappointment to the adventurers in this branch of mining, will, in a great measure, be found referable to these probable differences in the ages of these rocks.

I flatter myself that this opinion will be sustained ultimately, if not at present, by the community at large, and by scientific miners of other countries, as well as by subsequent examinations in this country.

The opinion that all metallic veins are referable to one age, which was formerly entertained in England, is fast losing ground before the march of scientific research, and the practical miners of this country now study the relative age of the formation, and form their estimates of its value very much on this basis.

It is found that there are eight distinct series of veins in some of the mining districts of England, and that these veins vary in value according to their relative age and position. It is made a practical point of examination before entering on mining specula-

tions in this country, to ascertain the relative age of a metallic vein before entering on the enterprise of extensive operations. We would, therefore suggest the following proposition in relation to the auriferous veins of this country.

That the value of these veins will be found in the relative age which they maintain to the rocks with which they are found in connection, being modified as their passage is found to be through igneous or sedimentary rocks.

This suggestion is made in the hope that less disappointment may be experienced by those who seek a profitable and laudable employment in those branches of industry, and also to check, in some measure, those hasty and inconsiderate generalizations that once promised to blast the most brilliant prospects of the State. Two years since, this opinion was maintained and also made public, and the estimate then made of the probable fate of a large portion of those who had embarked in these speculations was predicated, in part, on these grounds. How far that prognosis has proved true, the public can best judge. Another, and an important point in this subject, is the association of the metal with other minerals in the vein. A large portion of the gold in these veins is frequently combined with other minerals, most of which are of a compound character—as the oxides of iron, and also its sulphurets (pyrites).

It must be seen, then, that one general and indiscriminate treatment of ores must not only prove annoying in the results that are obtained, but highly disastrous in the extraction of the metal, for the process that would relieve the metal in one case, would only serve to fix its investing matrix more closely in the other. Hence has arisen much of the discredit to this branch of mining, and pecuniary loss. This has been sustained from the neglect in making the necessary selections of ores from the same vein, and applying the same treatment for each variety. The experience in this branch of mining of the past eight months, has demonstrated too truly and sadly that those methods heretofore adopted cannot be pursued with profit, but on the contrary, that certain loss must be the result of this system, too hastily entered upon, and too thoughtlessly pursued in whatever branches of industry it may be applied.

But, from the failure that has been experienced in this case, it would be unjust even to infer that these metallic rocks do not possess the equivalents of wealth that a reasonable estimate has placed upon them, by men whose judgments have been unbiassed and unswerved by the overheated infatuation that has too often prevailed here and elsewhere in relation to this subject. The best proofs of fast returning confidence in these richest of our resources, is found in the large amounts of foreign and home capital that is now seeking opportunity of investment in them, showing most clearly that the denouncements that have been piled upon them were based upon false premises, and are so considered abroad. In addition

to this, a local demonstration goes to support this position, and exerts a wide-spread influence, which serves to give weight to the above. It is known that parties who have suffered severe losses by embarking in these operations, still feel confident of success, and still hold those veins, feeling fully assured of their real value, although with their present means they are unable to groceed at the present time with success.

There are but few of these veins that can be purchased from the original holders for any thing like moderate prices, and those that are in second hands are equally firm. No truer barometer of public opinion of their value can be found, than is indicated even under such apparently depressed circumstances. The next metal that will engage our attention is platinum.

Platinum.—This metal appears as widely distributed as gold, and there is scarcely a section of the country, in which gold has been found, but that this metal also has been discovered. This fact would lead us to suppose that from the commercial value of the metal in its crude state, being about one half that of gold, it may at some future day be sought for, as an article of commercial export, among the exhausted placers of the country. It is to be regretted that a more intimate acquaintance with this metal among those engaged in the mining districts, does not exist, as I feel fully confident that the value of our mines would be enhanced nearly 25 per cent. by its collection.

A description of the metal would not lead to its detection, as it is so frequently combined with other metals that closely resemble it, and would be easily overlooked. We shall, therefore, dismiss it by noticing the localities where it has been observed.

It occurs on Salmon River, in the drift that contains the gold in small round grains of a steel gray; also on the South Fork of the Trinity, about eight miles from its junction; on Butte Creek, near Reeves' Bar; on Honcut Creek, embedded in gold, between the North and South Forks, and also in the placers between there and Feather River, on Canon Creek, of Butte co.; on Middle Fork of American River; on Wood's Creek; at Gold Flat, Nevada, with iridium and osmium, and small crystals of rutile at the bottom of the shafts.

This wide dispersion of this metal through the country would indicate that at some future day it may be made a source of profit.

Silver.—This metal has been found in several of the mines that have been opened in this State, all of them, thus far, situated in the southern district. It was first met with in a distinct vein, running parallel with a vein of gold in the southern mine, at Carson Hill. At this place I obtained a fine specimen. I was informed of its being found in the Old Dominion mine, beside the above, and north of it, and also in the Relief mine, south of it. The New York Mining Company, on the opposite side of the river, at Eagle Hill, was the next in which it made its appearance. At the Chilean mine, two miles north of Columbia, it occurs, associated

with copper and gold in quartz, in the form of sulphuret; also Frazer's mine, twelve miles east of Sonora, with galena and zinc-blende in the same rock, At these localities it is generally disseminated through the quartz.

At the Washington and Georgia mine, Quartzburg, in Mariposa county, I observed this metal in the form of ruby-blende in the vein-stone containing the gold, and when the metallic gold appeared it was a little lighter in the color than common, evidently from a slight alloy of the two metals.

This metal in other countries has proved an important source of wealth. From its casual occurrence in our mines, and its evident tendency of increase, as you advance south from the Stanislaus, there is just reason to hope that it may in this country become the source of wealth and profit.

Copper.—This metal is much more widely distributed than silver, through the western flank of the range. Commencing on the extreme north, it is found on the North Fork of the Trinity, a short distance from its confluence with the main stream, in a metallic state, in crystals and masses. The vein cuts both sides of the river, but its entire extent is not known. Vitreous copper is found adjoining, and also malachite. It occurs on both the Middle and South forks of Feather River, in the form of carbonate; also between Nevada and Grass Valley, near the Half-way House, and in many parts of the southern mines. I cannot speak with certainty in respect to the ores of this metal in the coast range, having never seen them; but judging from the character of the ores which have been brought from there, I feel warranted in believing that it exists in large quantities, but subsequent explorations must alone determine this point. The varieties of ore which I have seen from these sections, are of that character that would make their reduction easy, if they exist in sufficient quantities to warrant investment.

Chromium.—I would invite your attention particularly to the ores of this metal, inasmuch as from its appearance in large quantities in some sections of the State, and the extensive distribution of the serpentine rocks, to which it is also incident, we may expect, with a great degree of confidence, that it will be largely developed within our borders. It is an article of great commercial importance throughout the civilized world. Its principal use in the arts is for the coloring of porcelain, dyeing, and as a pigment. The fine chrome yellow so highly prized, is manufactured from this mineral. Nearly all the chrome used in the world, is produced from the mines of the United States; the Shetland Isles producing the next largest amount. The principal locality, and we might say nearly the only one on the Atlantic border from which this mineral is derived, is at the *Bare Hills*, near Baltimore, and this affords the supply of the world.

The greatest amount that can be obtained from all sources at present known, is about 2000 tons, though the market would consume a much larger amount could it be obtained. From the limited supply in the market, the public will, at no distant day, be directed to its development in this State. So soon as cheap and rapid means of communication are obtained with the interior of the State, this ore will probably become an article of export to a large extent, to China, and the Atlantic States, and England. It would be unnecessary to make it an article of export even, unless its reduction would prove too expensive in this State, on account of the high price of labor, for ample material usually exists in its vicinity for this purpose.

The high prices of the various manufactures from this mineral cannot fail to attract attention to its further development; and I feel that the value of the mineral will be sustained, when we say that its market price in the state of rough ore, will equal the product of our best ores of gold in their average, being about $80 per ton. It has maintained this price very uniformly for a number of years.

This mineral is found in veins and masses running through serpentine rocks. These masses are often large, weighing from sixty to eighty pounds, and smaller, and generally disseminated through the rock and upon its surface.

The finest specimens the author has ever seen, have been found in this country, and in some localities in large quantities. A striking feature in the country that abounds in this mineral, among the serpentine formations, is the peculiar barrenness of the immediate district compared to other surrounding sections, and an individual once observing it, would scarcely fail to recognize its characteristics even at a considerable distance.

The principal localities that have been observed as abounding in this mineral, are upon Nelson Creek, near its junction with Feather River, in fragmentary masses. On the ridge, between the North and Middle Forks of the American, in small fragments; on Bear River, four miles above Anson's Ferry; in the Cayota Diggings, near Nevada; and on Deer Creek, two miles below the city of Nevada.

It is at this last-named locality that its attendant peculiarities may be most conveniently studied. It occurs here in large amorphous masses of twenty to sixty pounds weight, scattered over a low range of hills of some four to six miles in extent. The mineral would be easily mistaken by the passing traveller, for large fragments of some of the darker trap rocks, or dark porphyries.

It is very dense, and possesses a semi-metallic lustre. Rolled fragments are often found of considerable weight on the banks of the creek in the vicinity. My attention was first directed to this mineral by Mr. Henry Pratten, who is at the present time connected with the Geological State Survey of Illinois, and formerly of the Minnesota Survey by the United States.

In what follows, relating to other minerals observed in my tour through the country, I shall confine myself to the principal ores only, and their localities, unassociated with their different varieties, as the limits of this report will not permit of more elaborate detail.

Commencing with the AURIFEROUS GROUP. Among the auriferous rocks we find Talc, at Central Company Mine, Marthenas Creek; Chlorite—Volcano Mine, Middle Fork, American; Talc—Dry Creek, El Dorado county; Chlorite—Angels; Peroxide Iron—Coyote Mountains, Sonora; Heavy Spar—Armagosa Mines, Desert; Arsenical Pyrites—head of Bear River.

SILVER.—Argentiferous Galena, Zinc-Blende, and Arsenic—Frazer's; Sulphuret Silver and Malachite—Columbia.

MISCELLANEOUS.—White, Clouded, Variegated and Jet Marble—Ringgold; White do.—Volcano; Oxide of Iron and Gold—Frazer's; Arsenical Pyrites—Frazer's; Foliated Graphite—Amidor; Marble—Deer Creek; Arsenical Pyrites in Argillite—Eagle Hill; Vitreous and Silicate Copper—Carson's Hill; Carbonate do.—Columbia; Franklinite—Stanislaus River; Jasper—Volcano and Talbot's Hill; Carbonate Copper—Round Tent and Grass Valley; Sienitic Granite—Grass Valley; Augite do.—Anson's, Bear River, and Auburn Creek; Scoria—Sugar Loaf, Nevada; Sienite—Half-way House; Peroxide Iron—Deer Creek; Peroxide Manganese—Deer Creek; Cinnabar—Deer Creek and Yuba River; Petrifactions—Talbot's Hill, Nevada, American River, and West Hill, Nevada; Lignite, Molybdenum, and Fossil Leaves—Nevada; Fossil Lichens—Wade's Creek; Pitch Stone—Sugar Loaf, Nevada, and Double Springs; Mammalian Fossils, *teeth*—Sonora, Douglas's Flat, Murphy's, and Vine Springs; Fossil Shells, Miocene—Butte Creek and Chico; Magnetic Iron—El Dorado and Placer counties; Obsidian and Peperino—Butte County; Emerald—Vallicita; Rock Salt—near Sonora.

Ossiferous Cavern on Wade's Creek, containing human bones, teeth of the Wild Boar, and other animals. There are other caverns of considerable extent in the calcareous formation of the State, but nothing peculiar was observed in them. Those visited were Martin's Cave, Middle Fork, American River; McKinney's, and Volcano; in Calaveras county.

MINERAL SPRINGS.

There are several mineral springs scattered through the country, consisting mostly of Chalybeate and Sulphur; they are widely dispersed; but a few of them will be noticed;—Chalybeate Springs, upon Destruction, North Feather, Yuba, and English Bar Rivers; Sulphur Spring, at Jackson, Calaveras county.

This last is the most important of all, and to be found in any quantity; it will probably become a place of resort for invalids in the future, as its waters are powerfully medicinal.

[The closing pages of this report, referring chiefly to agricultural indications, are omitted.—*Ed. Mining Mag.*]

ARTICLE III.

The Evils of Slavery.

BY HON. A. BEATTY, OF KY.

Mrs. Stowe's celebrated novel, "UNCLE TOM'S CABIN," exhibits a very strong picture of slavery. Her labors to sustain this position, seem to me to be almost a work of supererogation. For she truly remarks (page 11, 2 vol.): "Talk of the *abuses* of slavery! Humbug! The thing itself is the essence of all abuse."

Slavery, it is admitted, is an evil of a most aggravated character. The important question, then, is, what *practical* means can be adopted for its effectual removal. It is greatly to be regretted that Mrs. Stowe has not employed her fine talents as a novel writer, in setting forth, for the benefit of our country—all parts of our country, North, South, East and West—some *practical* plan for the removal of this acknowledged evil. *Her plan*, as exhibited in various parts of her novel, is that slaves, having naturally the same rights as *white persons*, who are born free, have a clear and indisputable right to assert the rights of freemen, by running away from their masters, and seeking shelter in Canada, where they will be protected in the enjoyment of those rights.

She urges, secondly, that the slave owners ought to educate and christianize their slaves, as a duty incumbent upon them.

And thirdly, that they shall in due time emancipate them.

Now the question presents itself, is this plan *practicable?* Can we reasonably hope that it will be so generally adopted as greatly to ameliorate the condition of our slaves, and in time remove the evil of slavery altogether?

On the first point, I would remark, that whatever may be our opinions as to the natural right of slaves to freedom, and the propriety of asserting that right by running away from their masters, and taking shelter in Canada, the question, whether this process will have a tendency to ameliorate the condition of our slaves, whether it can have a *practical* effect in the removal of the acknowledged evils of slavery, still remains to be settled.

Let a calm view be taken of the consequences resulting from the practice of slaves absconding from their masters, and I think, it will be apparent that, instead of ameliorating the condition of the slave population generally, and promoting the benevolent object of relieving our country from the evils of slavery, it will have directly the contrary effect. In the first place, in consequence of the distance of Canada from the nearest slaveholding State, the flight of absconding slaves, to prevent their recapture, must be very expeditious. And as the runaway knows that, if recaptured, he will be sold, and sent to some place in the South,

from whence he can never again hope to free himself by absconding, old men and women, and children, rarely attempt to gain their freedom in this way. It is only, with very rare exceptions, young, hale and hearty men, and men of middle age attempt to abscond. Some of these are recaptured, and sold in the South; others make good their retreat to Canada. In *either event*, they are separated from their wives and children, relatives and friends. I may be asked, why should masters be so inhuman as to sell their recaptured slaves to negro-traders, and thus seperate them, from all the endearing relations of wives, children, brothers, sisters and friends? Why not sell them, if they must be sold, near their former homes?

Let us look at this matter *practically*. When the recaptured slave is brought home to his master, the question arises, what is to be done with him? If his benevolence induces him to overlook the past, and to restore his slave to his usual moderate labors, on the farm, he commences those labors with a cheerful aspect. He is perhaps more industrious and attentive to the business of his master than usual. He is regularly paid in cash for his overwork —at hemp breaking, hemp cutting, &c. He accumulates some cash in hand. He makes all needful preparations, and takes his departure some Saturday night, which is to be succeeded by Monday's holiday. He is thus *two days* on his travels before there is any suspicion of his having eloped. But before his second elopement, he may have instructed the younger boys, how and by what road they may make their way good to Canada, when they shall have arrived at a suitable age. And he may perhaps have carried off with him some of the able bodied men, who have strength and ability to accompany him in his flight. Instances of this kind sometimes occur. There is always danger of a second elopement, and the still greater that the absconding slave will instill notions of liberty, to be won by getting to Canada, in the minds of those servants who have hitherto remained faithful to their masters.

In this state of things, how are runaway slaves to be sold in the neighborhood of their relatives and friends? No one will bay a property that is so precarious. In fact, there will be no such thing as to find a purchaser for a runaway slave, except for the southern market. Hence arises the horrid practice, described in such glowing colours, by Mrs. Stowe in her celebrated novel. The abominable negro trade would not exist if it were not for the practice of slaves running away from their masters—a practice which apparently meets the decided approbation and encouragement of the amiable novel writer.

It is true that slaves who have never run away, are occasionally sold "*down the river*." Cases of this kind (in our part of the country,) only occur where negro servants have behaved very badly; and when they become entirely unmanageable. But these cases

are rare, and too far between to sustain the business of a regular "negro-trader." This occupation, then, may fairly be ascribed to the practice of slaves absconding from their masters. But this is only *one* of the evils arising from this practice.

I have shown that, in general, it is only the healthy and able-bodied negroes that abscond. The old men and women, the unhealthy, and children, who are too young to labor, remain a burthen in the hands of the master. The laws of the country, as well as humanity, and the still greater obligations of christianity make it his duty to provide for them. To do this, he most, at very high rates, employ laborers to carry on his farm. A failure of crops, and other causes compels him to borrow money, at a high rate of interest; but he still struggles on, hoping that when his young negroes grow up he will be able to avoid the necessity of borrowing more money to make both ends meet. But his young negroes, as they grow up so as to be useful, on the farm, follow the example of their elder relatives, and flee to Canada; still leaving the *old* and *helpless*, and the *young* to be maintained by the luckless farmer. He is compelled again to borrow more money. At length the crack comes. The mortgagees foreclose their mortgages, and the bond-creditors obtain judgments. To satisfy these multiplied demands, the land and negroes are sold, at public auction. The negro-trader watches for his prey. He has the same right to bid as any other person; and the traffick, in which he is engaged, enables him to outbid neighboring purchasers. Like the sale in Washington, Ky., "by order of court," as described by the fair novellist, another Haley is present, examines carefully all the negroes who are to be sold; marks out those that will best suit the *market* for which he destines them, in the South. He bids off these because he can afford to give for them more than any neighboring purchaser. And, hard-hearted wretch, he cannot be persuaded to buy any old "Hagar" in the same lot with her only son "Albert, fourteen years of age." The *latter* suited the market to which he trades; the former did not. He, therefore, seperates mother and son forever for the sake of a little paltry gain. Here is another fruit, resulting from the practice of negroes running away from their masters. *They* enjoy freedom, such freedom as Canada bestows upon them! at the expense of their friends, their fathers, mothers, sisters, brothers, uncles and aunts, whom they have left behind. Did the fair novelist look to these consequences, when she was so zealously encouraging slaves to run away from their masters?

But there is another evil still, resulting from this practice. The laws of the land authorize the recapture of slaves, in the non-slaveholding States. Now whatever Mrs. Stowe may think, in relation to these laws, let her opinion, and the opinions of the friends of emancipation be ever so decided that these laws are *unconstitutional* or unjust, as good citizens they are bound to respect

them, at least so far as not to *resist their execution*, until they are repealed or declared to be *unconstitutional*, by the proper tribunal, the Supreme Court. I grant that a conscientious person like the "good Rachel Halladay," and her brother Quakers, and many other honest and sincere abolitionists, may without any impropriety (nay I grant the privilege to all) refuse to assist in the recapture of slaves, who have absconded from their masters. But I insist that good citizens are in duty bound to make no *active opposition* to the execution of the laws of the land.

If such opposition is habitually made, by any considerable portion of the people of the free States, it necessarily *embitters the feelings* of the citizens of the slaveholding States, and produces a state of things extremely unfavorable to the *cause of emancipation*, and thus *obstructs* the great and desirable event of freeing our country from the evils of slavery, within as short a period as we might otherwise hope to see it accomplished.

And what does this *help* of emancipation accomplish? It is like a drop from a full bucket. All the slaves that obtain freedom by taking shelter in Canada, would probably not be equal in number to one hundredth part of the natural increase of the slave population. Who can estimate how many millions of years, at this rate, will be sufficient to overcome the evils of slavery!

The next step, in the scheme of releiving the country from the evils of slavery, is to *educate* our slave population. Some judgment of the *practicability* of this suggestion may be formed from Mrs. Stowe's relation of the story of little Topsy. The amiable and excellent Miss Ophelia, a native of Vermont, entertaining opinions, in relation to slavery, as it existed in the South, in accordance with the views of her native State—while on a visit to her amiable kind-hearted and benevolent cousin, St. Clare, she saw and deplored the circumstance, that the slaves of the South were almost universally without the slightest degree of education. she expressed an ardent desire that their masters should afford them at least such a degree of education as would enable them to read the Bible, and thus lay the foundation for them to lead a christian life. Her good cousin felt a desire that it should be done if it were *practicable*. He buys the little girl Topsy, and gives her to his cousin, Miss Ophelia, to educate her under his own roof. From the excellent character of Miss Ophelia, her great industry, energy and incomparable methodical arrangement, in all her affairs, and from her perfect devotion to the rearing the young in the principles of Christianity, she was admirably qualified for the task she had undertaken. As this was to be a kind of *test* as to the *practicability* of bestowing the benefit of some degree of education to the coloured race, Miss Ophelia devotes all her energies to render the experiment successful. After devoting some two years to the education of her little charge, she almost despairs of making anything out of her. At length she falls upon the expe-

dient of persuading her kind-hearted cousin Augustine to convey little Topsy to her, by a regular deed of conveyance, that she might take her to her native home, in Vermont, where she hoped, at a distance from all her colored associations, she would be able to make *something* of her little charge, who was naturally very smart. In this she was not mistaken. She finally succeeded in giving her a suitable degree of education, and instilling in the mind of Topsy a due reverence and faith in the divine principles of Christianity.

Here, then, we behold *one* of the *seven hundred slaves* of Alfred and Augustine St. Clare, properly educated by the incessant labors of the excellent Miss Ophelia.

But where will we find *seven hundred* Ophelias to educate the other slaves of the two brothers? And where will we find suitable teachers for the other slaves of the slaveholding States, amounting to more than three millions, even supposing their masters would *give their consent* to have them educated, and would *board the teachers and pupils* while going through the process of education? But that masters would be willing thus to contribute their part, if teachers should voluntarily offer their time and their talents to the promotion of such an object is extremely improbable, because the impression, (whether right or wrong is not material,) among slave-holders is almost universal that to educate the slave renders them less happy and less valuable. The idea, then, of educating the slave population, *preparatory* to their emancipation is wholly *impracticable.*

The subject of slavery is under the sole jurisdiction of the several States in which that institution exists. *Emancipation* can only take place in accordance with the *constitution* and laws of the several States in which slavery exists. As the impression strongly and universally prevails in the slaveholding States that a sudden *emancipation* of the whole black population would be attended with the most disastrous effects to the slaves as well as to their masters, we may feel perfectly assured that, if in any State a constitutional provision shall be made for emancipating slaves, it will be by a slow and gradual process. As yet even this plan of emancipation has been discountenanced by all, or nearly all the slaveholding States, because the opinion generally prevails that our slave population are not in a condition to render freedom of any value to them in consequence of their want of education, and other causes, operating upon them, while in their present abode. Another obstruction to this mode of emancipation is that the mingling of *free blacks* with slaves would have a deteriorating effect on both. To free them upon condition that they shall leave the State is objected to, upon the ground that by taking up their residence in the adjoining free States, they would have a powerful influence in encouraging those not yet emancipated, to runaway from their masters.

But there is no circumstance that creates a greater *obstacle* to a system of gradual emancipation, by constitutional provision, in the several States, than the *incessant agitation* of the subject of *emancipation*, by citizens of the non-slaveholding States, and the systematic encouragement continually held out to slaves to run-away from their masters; and the protection, encouragement, and *assistance* afforded them, in making good their way to Canada. These circumstances are well calculated to arouse and embitter the feelings of the South against every species of *abolitionism*. They think, and justly too, that the subject of *emancipation* belongs *exclusively* to them. That the *incessant agitation* of this matter indicates a disposition, on the part of a large portion of the citizens of the free States, to interfere *by force*, (for they have no constitutional right to do so,) with the rights of the South; and that this disposition is evinced by their improper resistance to the execution of the laws of the United States, in relation to the recapture of run-away slaves.

Mrs. Stowe, in her novel, relates the circumstances under which George Haris and his wife Eliza ran away from their masters, in such a way as strongly to excite the sympathies of the reader. George had been a most extraordinary *good servant*. Yet his brutal master had treated him with great cruelty for a long time. George bore patiently all the inhuman treatment of his master, until he, out of mere revenge, prohibited him from going to see his wife and child, in the neighbourhood. His wife Eliza was also a most excellent servant, and had the happiness of living with a mistress of a most amiable character, possessing all the virtues and graces of a christian, in a preeminent degree. She raised and educated Eliza as carefully as if she was her own child. Eliza loved her as a mother, and was as faithful to her as ever a servant was to a master or mistress. Whilst thus enjoying as much happiness as falls to the lot of the most sincere christian (for such she was taught to be by her amiable mistress,) her master was driven, by *necessity*, to sell Eliza's *only child*, a boy of a few years old, to whom she was tenderly attached. This child was sold to an *inhuman negro-trader*, who was about to carry him to New Orleans to make sale of him, where Eliza could never again hope to see him. Under these circumstances, she saw that she could save her darling child only bo absconding from her dearly beloved home, in Kentucky. There was no time for delay. She resolved to make an effort to save her dearly beloved child from destruction. She took him on her back, and succeeded in reaching the boundaries of a non-slaveholding State. And by the assistance of the kind-hearted and benevolent "friends," (Quakers) into whose hands she was passed, succeeded in making her way, (in company with her husband, George Haris, who had fallen in with her, whilst he was fleeing from his master in Kentucky,) to the shores of Canada.

The escape of Cassy and Emiline from the cruel, inhuman and more than brutal Legree, and the circumstances attending their flight, and successful escape into Canada, are powerfully calculated to excite the sympathies of the benevolent reader. But notwithstanding the touching manner in which these stories are related, the reflecting reader cannot help seeing that the *effect* and general tenor of the novel is to encourage *all slaves* to run away from their masters, and the good and benevolent "Friends" to protect and assist *all run-away slaves*, on their way from Canada. For we find that other slaves, besides George and Eliza, who had no special reason for running away, were equally protected and assisted on their route, by the friendly Quakers, one of whom speaks with self-satisfaction of the fact, that no slave had ever been recaptured in their friendly settlement.

Though cases like those of George and Eliza, and of Cassy and Emilina may sometimes exist, though, perhaps, in not quite so aggravated a form as related by the fair novelist, yet the cases are far more numerous, in which slaves run away from masters, who have treated them with great kindness, and not unfrequently evincing a great want of gratitude.

A case of this kind has occurred not very long since in my own neighbourhood. A young man of mild and amiable feelings, with the assistance of his father, a wealthy farmer, purchased a farm, only a few miles from the Ohio shore. He wanted hands to assist in working his farm. He very soon had applications from a number of slaves to buy them, because they felt assured he would make them a more indulgent and better master. At their particular request he purchased several of them, at high rates, believing that those who expressed so strong a desire to come to him, would be faithful. It turned out far otherwise. These stout and hale young men remained with him long enough to make suitable arrangements, when they took their departure for Canada, and made good their retreat with the aid of certain abolitionists of Ohio.

It is much to be regretted by the *real friends of some practical plan of emancipation*, that the encouragement held out by many persons, to induce slaves to run-away from their masters, and the other causes, enumerated above, should have produced such a state of feeling in the slaveholding States, as to have prevented, hitherto, the adoption of any general system of gradual emancipation, in any State south of Delaware. It is to be hoped that the causes which have hitherto prevented this first step, by State authority, to relieve the South from the evil of domestic slavery will, in time, be removed. In the meantime it is a source of much gratification that the process of *voluntary emancipation* is progressing quite as fast as the means of the colonization society will enable them to send to Liberia the persons thus emancipated. The *ability* of the society to send out new emigrants is *annually* increasing. And it is a source of great pleasure, that

the condition of Liberia, and her ability to receive new emigrants, is increasing much more rapidly, than the means of the colonization society. As these *means* increase, so will be the increase of voluntary emancipation. The only *practical* plan, then, of northern abolitionists is to hasten the process of *voluntary emancipation.* This they can readily do by voluntary contributions towards increasing the means of the colonization society. If these means could only be increased to such an extent as to enable the society to send to Liberia all the slaves that shall be voluntarily emancipated, we would very soon behold the entire coast between Liberia and Sierra Leone occupied by freemen, enjoying all the rights and privileges, that our citizens enjoy in the free States of the Union. Such a settlement would effectually suppress the slave trade far more than this benevolent object can be effected by the joint navies of Great Britain and the United States. When this extension of the settlement on the coast of Liberia shall be effected, the slave-trade will not only be exterminated, but we shall behold Liberia extending her influence over the interior nations of Africa, civilizing, christianizing and uniting them as confederate States. In a word, a great nation of freemen will spring up on the coast of Africa much more rapidly than we have grown into a great nation and powerful Republic, since the landing of the pilgrims on Plymouth Rock, in the year 1620.

It may be said, slavery is our own concern, and that we ought to contribute the means of eradicating the evil from our borders. Is this a just view of the subject?

Slavery was introduced into the Southern States contrary to their wishes, and against their earnest remonstrances. The mother country, England, *forced* the evil upon them. The merchant vessels of the Northern colonies contributed to fasten this great evil upon the South. These traders in human beings received a full consideration for every man, woman and child sold into a state of slavery. And we are now cooly told, that *we* ought not only to emancipate these slaves, but that we ought to bear the entire expense of sending them back to Africa, from whence they were brought as merchandize, and sold to the Southern planters.

And now, when humane and benevolent individuals are willing to sacrifice the whole value of their slaves, by emancipating them, because *justice* and religion demand that they should make that sacrifice, they are told, you must *do more*, you must pay the expense of sending them back to the country from which they had no hand in bringing them. These humane individuals, who are struggling to have *justice* done to the much wronged African, (wronged by others, not themselves,) are told that when they greatly curtail the fortunes of their children, by giving freedom to all their slaves, they ought to strip them of the little means they have left for educating them, and giving them a little to begin the world, by paying the expense of sending back the Africans to their native country. These friends of gradual emancipation are making annual contributions to keep up the funds of the colonization

society, so that they may be enabled to send out annually as many as possible of these emancipated persons, and it is too much for them to ask of their northern brethren, who desire to see all our slaves liberated, to contribute their mite towards the great and benevolent object of freeing our country from the curse of slavery.

If it be said, this process of liberation is too slow, I reply it is as rapid as is *practicable*, in the present state of things; it is as rapid, or *may be made so, by the help of our northern brethern*, as is consistent with the existing condition of Liberia, and the well-being of the emigrants sent out. We should reflect, also, that this effort of the colonization society is rapidly improving the condition of Liberia, and greatly increasing *her means* of receiving the constantly increasing numbers of emigrants, and providing for their comfortable subsistence and education of the younger portion of them.

But there is another consideration that ought to prove decisive. Experience demonstrates the *practicability* of the scheme of emancipation by colonizing free persons of colour in Liberia. The *practical* results will not fail to make themselves felt in some one or more of the States. One or more of these States will ere long provide, by a change of constitution, providing a system of gradual emancipation. The process will thus be greatly hastened, and its good effects will be witnessed by other States which will follow the good example. And thus, with the blessing of a merciful God, we will as speedily as circumstances will allow, be relieved from the curse of slavery; and Africa will have her long lost children restored to her, as were the children Israel to the land of Canaan. Nothing will be wanting, with the blessing of God, but to furnish *means* for sending home these much wronged sons of Africa. And who can doubt the ability of a great nation, like ours, with a population, at this time, of about twenty five millions, and which will be doubled in less ihan twenty-five years, of providing for the transportation of all the sons of Africa as fast as they shall be gradually emancisated by the laws and constitutions of the several States. In this process of gradual emancipation, each State must be left to regulate the matter exclusively according to its own judgment. All interference, on the part of other States, must be sedulously avoided, as such interference, even if remotely and indirectly attempted, would throw obstacles in the way, and delay the final accomplishment of relieving the country from the evils of slavery. In carrying out this good work, all parts of the United States are deeply interested, and all parts of the Union ought to unite in its accomplishment. When I speak of non-inferference, on the part of citizens of non-slaveholding States, I allude to that kind of interference which is not consistent with the laws and constitutions of the slaveholding States. But voluntary contributions to aid the operations of the colonization society, are not of that character. Such contributions will be honored and thankfully received by every true friend of emancipation. A few remarks on the advantages which will accrue to the coloured race, by colonizing them in their native country, will close this article. This cannot be better done than by giving some extracts from the letter of George Haris, near the close of Uncle Tom's Cabin.

"The desire and yearning of my soul is for our Afaican *nationality*. I want a people that shall have a tangible seperate existence of its

own; and where am I to look for it? Not in Hayti. Where then shall I look? On the shores of Africa I see a Republic—a Republic formed by picked men who, by energy and self-educating force, have in many cases, individually, raised themselves above a condition of slavery. Having gone through a probationary stage of feebleness, this Republic has, at last, become an acknowledged nation, on the face of the earth; acknowledged by France and England. There it is my wish to go, and find myself a people."

"I grant that this Liberia may have subserved all sorts of purpsses, by being played off in the hands of our oppressors against us. Doubtless the scheme may have been used in injustifiable ways, as a means of retarding our emancipation. But the question to me is, is there not a God above all men's schemes; may he not have overruled their designs, and founded for us a nation by them? In these days a nation is born in a day. A nation starts now with all the great problems of republican life aad civilization, wrought out to its hands; it has not to discover but only to apply. Let us then all take hold together, with all our might, and see what we can do with this new enterprise, and the whole splendid continent of Africa opens before us and our children. *Our nation* shall roll the tide of civilization and christianity along its shores, and plant *there* mighty republics that, growing with the rapidity of tropical vegetation, shall be for all coming ages. Do you say that I am deserting my enslaved brethern? I think not. If I forget them one hour, one moment of my life, so may God forget me! But what can I do for them here? I can't break their chains? No, not as an individual, but let me go, and form part of a nation, which shall have a voice in the councils of nations, and then we can speak. A nation has a right to argue, remonstrate, implore and present the cause of its race, which an individual has not. But you will tell me, our race have equal rights to mingle in the American republic, as the Irish, the German, the Swede. Granted they have. But then, *I do not want it;* I want a country, a nation of my own. I think that the African race has peculiarities, yet to be unfolded, in the light of civilization and christianity, which, if not the same with those of the Anglo-Saxon, may prove to be morally of even a higher type. To the Anglo-Saxon race has been entrusted the destinies of the world, during its pioneer struggle and conflict. To that mission its stern, inflexible, energetic elements were well adapted, but as a christian I look for another era to arise. On its borders I trust we stand; and the throes that now convulse the nations are, to my hope, but the birth-pangs of an hour of universal peace and brotherhood. I trust that the development of Africa is to be essentially a christian one. If not a dominant and commandidg race, they are at least an affectionate, magnanimous, and forgiving one. Having been called in the furnace of injustice and oppression, they have need to bind close to their hearts that sublime doctrine of love and forgiveness through which alone they are to conquer, which it is to be their mission to spread over the continent of Africa. You will call me an enthusiast. You will tell me, I have not well considered what I am undertaking. But I have considered, and counted the cost. I go to Liberia, not as to an elysium of romance, but as to a field of work."

ARTICLE IV.

[From "The Farm and Garden."]

Rural Architecture.

Parks in America have, practically, somewhat a different signification than they have in England. In England, almost every landed proprietor who indulges in the luxury of parks, has a large agricultural estate adjoining, usually farmed by tenants, together with a home farm of more or less extent, for the accomodation of his household, and to which the perk is an object of convenience, in fattening his herds, at the same time that it ministers to the gratification of his tastes and his luxury. Such appropriations of large tracts of ground are not usual in a waste region, and the finest parks are found in the most highly cultivated countries. The buildings which decorate these grounds are usually of great extent, in elaborate styles of architecture, and cost sums in the construction at which even our richest Americans would shrink in the contemplation. But the park-building Englishman builds for himself and his posterity to inhabit. The American, although he may fancy or flatter himself that he builds for the same purpose, in a great majority of cases, after a few years of possession, either willingly alienates it into the hands of a stranger, or, enjoying it for the term of his own life, his heirs usually expedite that transaction in as brief a space of time after his demise as the forms of law will admit. In his design, the laws of entail fortify the Englishman. He is already in the possession of a hereditary estate, which has been for generations or centuries in the family, and he builds and improves with a knowledge that in the usual current of events it will continue so to descend. Or, if he buys a park, and builds his mansion, he intends to found an estate which is to remain in his posterity, or in the collateral branches of his family, with a reasonable expectation that they will occupy it for generations succeeding him, In our country, the laws, contemplating the subdivision of any estate belonging to the head of a family, perpetually admonish him to a limited expenditure in so costly a luxury, which, if he be a sensible and a prudent man, he will continually bear in mind. Under such considerations, therefore, England, the country from which our fancies and tastes are mostly copied in subjects of this kind, although worthy of consideration in many features of imitation, is not, in the extent and costliness of her parks, mansion and houses, a safe example for the American to follow.

The style of the house for the American park, may be considered with us in two different lights: The first as appertaining to the agricultural proprietor, the second as devoted to country leisure and luxury alone. In the agricultural States, comprising those lying south, west, and northeast of Pennsylvania, the extent of land cultivated and occupied by many individuals, will permit them to appropriate a sufficient space to park purposes to gratify a very considerable ambition, while it may remain devoted to economical uses, and at the same time afford the finest scope for a display of good taste in landscape gardening and building. Such proprietors are usually the managers

of their own estates, and reside upon them, if not permanently, at least for several months of the year. These are their homes—their places of business. Their habitations are for their business convenience as well as for domestic life, and should be made altogether for everyday purposes. Choosing, therefore, to reside in a park—and which they may do with equal convenience to the management of their estates as it is huddled into close proximity to their cattle yards or their laborers quarters—they should consult a due propriety and style of building, within the limits which prudence in the outlay will admit, as much as the richer man of the city who enjoys his park and pleasure grounds for the purpose of luxury, and lavishes upon them a much larger sum for the gratification of his taste or the display of his wealth.

In considering the first part of the subject, although it may be a fancy, there is a fitness, in the structure of a house, somewhat comporting with the ground features of the country by which it is surrounded. A mountainous evergreen or a hilly region in a northern climate would naturally suggest a strong-walled house, with a steep and sheltering roof to protect it from heavy snows, and give it warmth, as in the Swiss or Anglo-Italian styles, if placed on an eminence overlooking a wide tract of country; or in the old English cottage style, with high gables, in a valley protected by hills, and sheltered by woods. If in a plain, or an undulating country, a wider choice of style may be indulged, as the more open Italian, or the modern pointed Gothic above the latitude of 40°; or inclining to the Venitian and low Italian with broad verandahs in both, as their localities extend further South. For the Norman, Tudor and Elizabethan styles, as they are severally termed, we have less attachment, being too suggestive of fortifications and defence, for which people of the present day have no use. The indulgence of these styles with the architects of our own time, frequently run into all sorts of absurdities in the accumulation of buttresses, gables, turrets and endless conceits that lower the true dignity of the house, and make them more to resemble a costly toy than a sensible, comfortable dwelling. Aside from such drawbacks, we cannot with propriety copy the proportions and parts of the foreign structures which are presented to us in those elaborate styles. In adopting them to our use they should be *Americanized*, if such a word may be permitted, with a fitness to our circumstances, as being different from the people of any country abroad. They should be plain in the exterior and simple in their composition, with every convenience that is required where the inmates of a family, save in the Southern States, have to rely much more on themselves, than in countries where society is divided into such castes as compel one large portion of the population to serve the other portion of necessity, and where such service can be readily commanded.

In regard to the material of which the house should be constructed, there is a manifest propriety in using that which most abounds in the vicinity, if it be of a proper kind. In a region affording good stone, being appropriate, durable and cheap, nothing can be more appropriate. In the absence of stone, and good clay in abundance, bricks stand next in durability and cheapness—a fitting material always; while in lumber districts, abounding in a choice of woods, they may

be applied to the construction of houses for all purposes, and in appropriate varieties of style.

Situated in a park, or elsewhere, a house should express in its external appearance its chief purpose of occupation. For summer resort only, it may be open, light, showy, and shadowy. It may be relieved of some appendances which are indispensable to a winter dwelling. It may indulge in more outward ornament, and wear a less substantial look—for its exterior expression should show that it is a dwelling, solely, and not to be mistaken for a temple or a pagoda. A house for permanent occupation should have its one, or more fronts —scarce ever more than two, and such front or fronts furnished in a style of superiority, or otherwise corresponding with the uses for which they are designed. It is to be supposed that its site commands the finest view which the park embraces, and the best front of the dwelling should look out upon it. The rooms on that front should be the highest finished and furnished, and devoted to the leisure hours of the family, to purposes of hospitality and social intercourse. Such may, under fitting circumstances, be made the entrance front, when another does not render the opposite more convenient. All the show and luxury of the exterior finish should here be displayed ; as, commanding the best and most extended view over other objects, it is the most prominent and pleasing subject of contemplation from the same objects in turn. The house should show from any point of view at which it is seen, that it has a principal front, or another front, if it really be so; yet that this other be subordinate to the main one, for it is scarcely to be supposed that any one house can command two opposite fronts, or even a side one, in addition, of equal interest or beauty. It should indicate, also, that it has one, or more, sides shut off from the general view, which are appropriated to family rooms, where the inmates may be retired; and, as a matter of course, domestic convenience demands that there be servants' rooms, kitchen, scullery, laundry, wood-house, and other appendages, forming a continuous range of buildings in the rear, which should be quite shut off from familiar contact with the better and more finished, and protected by shrubbery, trees, fences, and perhaps additional buildings, accomodating the stable and other requirements. These in contiguity with the kitchen and fruit gardens, placed in appropriate position and connection with the main dwelling, compose a picture of appropriateness and completeness on which the eye can rest with entire satisfaction.

There being a sufficiency of ground, the house should spread over it. There is no necessity, nor convenience in underground rooms for living purposes, and as they must show in the exterior walls, they mar the simplicity and fitness of the country house. For hight, full two stories above the surface is all that it requires ; more than that gives it an ambitious look, and suggests the idea of a city house in a wrong place. A broad Veranda on the principal front we would not omit; it may be extended around one or more of the sides, or even, in a southern climate, to the opposite front, if such front there be, (but not a continuous veranda around the whole,) provided the style of its architecture will allow it without a violation of its rules.

A flanking and rear of woods, either fruit or forest trees, composes the richest back ground, as seen from a distance, and where

nature has not already furnished the forest, a plantation of one or the other should at once be commenced. By this, the house and its appendages become as they should be, the eye of the picture, other irrevelant and less interesting objects being shut out of sight. Such, and all such advantages may be comprised in the dwelling of the wealthy farmer or planter of the United States, without trenching on an economical arrangement of his family residence.

Let such a composition of the Park mansion be contrasted with many a modern one, designed for expressly the same objects, which are so often obtruded upon our sight: a tall, square, castellated structure, standing on a high basement, having at least two, sometimes three, and worse still, four fronts all equally approached by a carriage way, or foot-walk entirely around it. The windows of each room staring out upon its front, and every apartment exposed to the noise and intrusion of every passer by, stranger or not. Every door a public door, and no private ingress or egress whatever. A cellar kitchen, with under-ground offices attached, sending their steam, smoke, and effluvia into every room and area above, and concentrating within the four, six or a dozen lines of outer wall, as the various angles and zig-zag lines of said wall may govern all the seemly and unseemly kinds of occupation to which the appurtenances of a dwelling house are devoted! Of the style of its outer or inner architecture, no matter now—of its interior arrangement we are at this moment speaking, and it must be apparent to all who understand either the requirements or the necessities of housekeeping, that it has no true fitness for such purposes. All and every part is public, and public alike—all lawn, all approach, all open, all show. There is no retirement, no privacy about the establishment whatever. Yet many such houses, mansions, country seats, or villas, or by whatever name, are thought by some professing to have taste and judgment in such matters, fine houses to live in! We have seen such, built at an expense of ten, twenty—even thirty thousand dollars and upwards, that were eclipsed in all convenient family accomodation, at a cost of half the money in each corresponding degree of pretension.

Now, to any one who will enter into the details of such an establishment, it will prove a difficult labor to trace out the sinks, drains, areas, and what not, leading into and out of it, their cost in construction, the labor and vexation of living in and keeping it in repair. The stables and carriage houses—for there are no outhouses, in the common acceptation of the term—are at a distance, either in open view or behind trees or shrubbery, as chance may govern, and all connection with gardens, retired walks, the woods and fields—a full half of the charm of country life—is as effectually cut off as though one lived on the opposite side of a public street. The house may be shaded on one, two, or an every side, by a veranda; but what matters it? it is still cut off from immediate intercourse with the grounds which should in all propriety closely connect with and adjoin one or more sides of it, and through which should be no public passage, and only approachable through a door of the house, or a gate belonging to it. It is a show house, in fact, erected to gratify the builder's ostentation, instead of a dwelling in which to enjoy domestic peace and seclusion,

The exterior architecture of such a house as this, as applicable to a dwelling, cannot be good, because there is a want of fitness in its appearance for the purposes for which it is built. To apply architectural proportions and beauty to an object like this it should be largely extended to embrace an open court, around which its several parts should extend, like a European palace, a thing we have no use for in America as a private country residence. A moderate sized house of forty, fifty, or sixty feet square, is as large as is usually required here, which, with a strictly architectural finish, must look like a public structure, and then it becomes an absurdity as a dwelling. Its interior fitness is no nearer the mark, for its convenience must yield to the demands of the exterior—a show dwelling altogether.

In the second light in which the style of the house may be regarded, as the permanent residence of the man of leisure, the scholar, the retired man of business, or of him who resorts to the country for a sojourn of a few months in the year, and unconnected with agricultural pursuits, other considerations move him in its construction than those which control the agricultural proprietor alone. If he retire at the distance of some miles from the city, and out of the immediate neighborhood of a village, the man who intends building a park residence will appropriate a sufficient area of ground to accommodate his wants in the way of pasturage for his horses, cattle, sheep and poultry, (for without them his establishment must be incomplete,) and to combine within his own possessions a sufficiency of wood—and water, if possible—to give a completeness to the domain within his own apparent boundaries. These accomplished, the house becomes the attractive and paramount object of his attention.

Although not perhaps exactly within the province of these notes to give a homily on the financial policy of house building in the country; yet for the edification of such as look to a country residence as a recreation, or a temporary retirement only, it may not be inappropriate to suggest some reflections when about to invest a portion of their capital in an object so fruitful of pleasurable anticipations. There is probably no description of real estate which is so fitful in its occupation, and so temporary in the tenure as the country places belonging to residents in our large cities. The reasons leading to this might be given at length, but they will readily occur to any one who chooses to give the subject a deliberate thought. Some people buy a place and retire into the country without the knowledge of what country life really is—without any true appreciation of its pleasures or its sacrifices—without reflection upon its inconveniences or its expense. They adopt it, in short, because it is the fashion. One buys a piece of ground without knowing its capabilities for the object to which it is designed, and throws himself into the hands of his professional landscape undertaker and his architect, heedless of their skill or fitness to execute their work. They squander his money, and put up a place—after the fashion—and perhaps before it is ready for his occupation he becomes disgusted with the expense and place together, gets over his passion for retirement, and sells it on the first good offer at a heavy sacrifice. Another may retain his, and try country life for a year or two, and then finding it unsatisfactory, disposes of it at perhaps a better price than the last, and pockets the loss with

the best grace he can. Another still wiser, buys a place already built at a considerable discount, and occupies it, intending to make it a permanent residence; but his circumstances changing in business, or family, it is again sold, most usually at a loss, for coming into his hands ever so complete, his own propensity for improvement has involved an outlay of some thousands for its further embellishment, for which the new purchaser is not inclined to pay. And so goes almost the entire chapter, until there is rarely to be found a "country place" within striking distance of our principal cities, which has been occupied for twenty years by the same family or name, and but very few for half that limited period. They have proved the most expensive luxuries in which their proprietors have indulged, and are thrown off their hands like any other bauble which amused their fancy for the time, and with quite as little regret.

These are facts which it is well to weigh before involving one's self in a large expenditure in building a country residence. An investment in land is not so hazardous a matter. If well situated and well purchased, the loss in it cannot be much when one wishes to dispose of it, even if not valuable for agricultural purposes. It is usually the house and the other erections built upon it which sinks the capital, and in the event of a sale of the premises, tastes in such property usually differing, the purchaser is fastidious unless he can drive a decided bargain. Many familiar places can be named which half ruined the owners in building them, and never gave them a moment's enjoyment in their occupation. The splendor of his dwelling can add nothing to the consequence of the proprietor in the community in which he lives, further than to identify him with the notoriety of his temporary castle; and to the man of true fame an ambitious and costly house counts but little with those whose approbation he is most solicitous to preserve.

We would not be misunderstood as suggesting a mean and parsimonious spirit in the country dwelling. Far from it. Everything relating to it should be on a liberal plan—large enough, rooms enough for family relatives, and complete in every luxury and comfort; but all for use, and not for show. Ostentation should have no abiding place in the country. Health, leisure, amusement, quiet rural beauty, are the objects for which the country is sought by the jaded citizen or the lover of country life. These attained, the purposes of the park and its house are accomplished, and what these cannot provide within the limits of a reasonable expenditure in a dwelling, no amount of money can bestow. On the contrary, an opposite course—the squandering of a large sum on an object which in its nature and purpose is designed as a retreat from the throng snd bustle of the town, has often defeated the very objects intended, and driven many an honest seeker of the true pleasures of rural life again into the labor and turmoil of business, from the mistakes they had made in the outset.

Valley of the Ohio.

ITS CONQUEST AND SETTLEMENT BY AMERICANS.

BY MANN BUTLER, ESQ.,
Author of the "History of the Commonwealth of Kentucky."

Continued from page 222.

The British government seems to have been much struck by the disaffection of the Indians, founded as it was on irresistible reason and right upon their part. It may have been jealous of extending its authority on the western side of the Alleghanies.* Its policy seems, however, to have been vaccillating in this respect. While a grant to the Ohio company for 500,000 acres of land, on the Ohio river, had been made in 1749, yet in 1763 a royal proclamation was issued declaring "the royal pleasure that no governor, commander in chief, do presume until our further pleasure be known, to grant warrants of survey or pass patents for any lands beyond the heads or sources of any of the rivers which fall into the Atlantic ocean from the West or Northwest, or upon any lands whatever which not having been ceded or purchased by us, are reserved to the Indians or any of them." Proclamations of princes are not always obeyed within the precincts of their own palaces, and in their own presence; how much less so, at a distance of three thousand miles from the metropolis of power. Exertions were made by the military forces to prevent the intrusion of the whites upon the lands of the Indians, in vain. No sooner had the British troops removed from the lands from which they had forcibly ejected the unlawful settlers or squatters, (as we have since called such men.) than they returned at full liberty to prosecute their settlement. Stringent legislation against settlers, in favor of Indians, was at war with the notions of the country, and its sentiments toward the Indians; and no government could effectually execute it. Nothwithstanding this fluctuating policy, the hostility of the Indians was met on the part of the British by two military expeditions, one under the command of Gen. Bradstreet, to march into the country upon Lake Erie, and another under Col. Bouquet, who so gallantly relieved Fort Pitt, for the country upon the Ohio. The inefficient conduct of the former has been well illustrated by other writers, and hardly falls within the plan of this work.† The march of Col. Bouquet is truly memorable in the annals of the West. These troops assembled at Carlisle, in Pennsylvania, and about the 25th of July, 1763, after surmounting the difficulties of a mountainous wilderness affording to an enemy incessant opportunities for ambuscade and surprise, reached Fort

* See Franklin's Works, p. IV. Dillon, p. 98.
† History of the Conspiracy of Pontiac, 261, 262.

Bedford, about one hundred miles from their rendezvous, and the same distance from Fort Pitt.

On the 5th of August the army, disencumbered of its wagons, got within half a mile of Bushy Run, between twenty-two and twenty-five miles from Fort Pitt.* Here an obstinate engagement with the Indians, who had abandoned the siege of Fort Pitt, took place. This was hotly contested from about one o'clock of the 5th, till night put a suspension to the ferocious hostilities; they were resumed on the 6th by day break, and continued till 10 in the morning, when the Indians gave way. This battle has been well pronounced "one of the best contested actions ever fought between white men and Indians."† It may well be ranked with the subsequent battles of Point Pleasant and the Blue Licks: they were all most bloody encounters between the two races, and most fiercely fought.

Col. Bouquet marched from Carlisle with 500 men through the same wilderness against an enemy, which had defeated Braddock, at the head of 1,200 men, (and many of whom were our countrymen,) with a loss of 700 men. One fifth of the Virginia provincial troops were killed. It behooved a commander alive to the high duties of his situation, to scrutinize his steps most anxiously. Yet with all his precaution, and the intrepidity and skill with which this expedition was so eminently managed, the loss of the whites, as usual, exceeded that of the enemy; the British lost in the two battles 8 officers and 115 men; after the first encounter, there were sixty dead or disabled bodies in the British camp. The Indian loss amounted to the uncommon amount of sixty "among whom were the corpses of several prominent chiefs, while the blood which stained the leaves of the bushes showed that numbers had fled severely wounded from the field. The soldiers took but one prisoner, whom they shot to death like a wolf."‡

On the 10th of August, the army reached the long beleaguered Fort, and relieved its dangers and wants with their presence, and a train of pack-horses loaded with provisions, which numbered 350. But the relief of Fort Pitt bounded the exertions of Col. Bouquet at this time. His force was utterly too inadequate to penetrate further into the wilderness. In the mean time, although the Fort had been relieved, and the enemy defeated with a severe loss to the sparce population of hunter tribes, the frontiers of Pennsylvania, Maryland and Virginia suffered all the atrocities of a war with savages. The tribes most contiguous to the frontier, removed their families west of the Muskingum, confident in the protection which the intermediate forest and streams would offend them. Under this imaginary security, the warriors threw them-

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See Craig's Pittsburgh, p. 91; and Conspiracy of Pontiac, p. 367.

† Conspiracy of Pontiac, p. 368.

‡ Conspiracy of Pontiac, and its authorities, p. 366.

selves with all the fury of barbarian hate on the frontiers, which had been temporarily refilled by the inhabitants after the first successes of Col. Bouquet.* These frontier calamities seem at length to have aroused the Assembly of Pennsylvania from their charter disputes with her proprietaries, to unite with Virginia in rescuing her people from the murderous rifle, tomahawk, and torch. The distracted and forbearing government of the province issued a proclamation promising $150 for every Indian male prisoner above the age of ten years, for every female of the same age $130; for every male scalp $134, and for every female scalp $50. A sad and melancholy aggravation of the horrors and corruptions of war, only palliated by the ferocity of the enemy.

On the 5th of August, 1764, the anniversary of the bloody and momentous contest of Bushy Run, the troops assembled once more at Carlisle, in Pennsylvania; and "consisted of five hundred regulars, a thousand Pennsylvanians, and a small but invaluable corps of Virginia riflemen."† On the 17th September, 1764, the army arrived at Fort Pitt. Well and interestingly does the writer just named narrate the march of this gallant body of men destined to avenge the injuries of their country. The results of this march more immediately concern the plan of this work, without borrowing details too lavishly from the charming pages of the History of the Conspiracy of Pontiac.‡

Col. Bouquet marched his troops with all the precaution suggested by his experience of the subtle foe with whom he was contending. So well prepared and commanded were the troops; so compact and thorough was the terror of the Indians, that to save their towns, all within striking distance of the enemy, they surrendered to the stern demands of Col. Bouquet, two hundred and six prisoners with hostages for the faithful observance of the treaty between the parties, and the liberation of the white prisoners yet remaining among the Shawnees. These were too distant to be brought in immediately; but they were faithfully returned the next spring, to the number of one hundred at Fort Pitt.

These were no common fruits of military energy; it has only been at great and critical periods in the history of our Indian wars, that they have been so completely humbled. Yet these were the very Indian tribes who had massacred the army of Braddock. For massacre, and not merely defeat, is the word descriptive of the overthrow and destruction of the army, under that brave, but rash, obstinate and impracticable commander. And Col. Bouquet well earned the thanks given him by the Assemblies of Pennsyl-

* Conspiracy of Pontiac, p. 378, 408.

† Conspiracy of Pontiac, p. 482.

‡ Hutchin's Account of Bouquet's Expedition. There are some interesting extracts from this work also in the Pioneer History, Cinc. 1848, p. 46.

vania and Virginia, and the promotion by his own government.* This unparalleled success of the British arms over savage enemies on this continent, and which was still more signal over the French and Spanish branches of the house of Bourbon, did not yet fully reach the Indian tribes in the Illinois, as the French termed their possessions on the Upper Mississippi, even on both sides of that river. The contiguity of these tribes to the French settlements on the western side of the Mississippi, the existence of the old French villages, and the presence of their fur-traders in the very heart of the Indian country, all combined with old and long cherished attachments for the French, and hatred and hostility to the British, to prolong the war, and procrastinate the delivery to the British of the distant posts of the French, at Vincennes, on the Wabash, and at Fort Chartres, on the Mississippi. For this purpose, no little tact and management were necessary with the Indians to facilitate the transportation of troops and stores to these remote points of the former empire of France in North America. Without the management and experience of well known Indian agents, it may well be doubted, whether the whole power of the British Crown could, without enormous sacrifice of both blood and money, have transported any troops to the banks of the Wabash and the Mississippi.

Two attempts were indeed made, almost fatally, by Capt. Morris, under the orders of Col. Bradstreet and Maj. Loftus, by the way of the Mississippi. The former officer barely escaped with his life from the camp of Pontiac, on the Maumee; and the latter was so discouraged by the attack of a party of not more than thirty Indians, (as the French sneeringly said,) that he desisted from the attempts, and returned to his head-quarters, at Pensacola.† The repulse of this officer has left his name to the place called Loftus, Heights, on the Mississippi river.

After the failure of these officers, one after another, Col. Croghan now undertook to exert his influence over the Indians, under the orders of his superior, Sir William Johnson.

In February, 1765, Croghan, with Lieutenant Frazer and party, set off on this perilous expedition of peace and mediation, with a train of pack-horses loaded with goods as presents for the Indians. For negotiation with them without presents would be of but little avail. These donations to the Indians, together with the merchandise of private traders, which accompanied them, and was intended for the opening of the Indian trade at Fort Pitt, excited the resentment of the frontier people. Jealous of this intercourse and supply to their inveterate enemies, they determined to destroy

* For a brief but interesting account of this great commander, a Swiss by birth, the first Anglo-American in our history, who penetrated successfully into the western wilderness, at the head of a large army, See Conspiracy of Pontiac, p. 353.

† Conspiracy of Pontiac, p. 469, 474, 531.

the whole caravan of goods. This they effected most completely, by waylaying the train, under the disguise of Indians; and making a bonfire of the goods, which they still would not plunder for their own purposes. Notwithstanding this interruption, owing to the reckless passions of the frontiersmen, Croghan, on the 15th day of May, 1765, having supplied, in some degree, the loss occasioned by the robbery before mentioned, set off upon the descent of the Ohio river, to confer with the malcontent Indians in the Illinois country. Fortunately we have this early document of western history, being the earliest written account of Anglo-American exploration of the western country anterior to the expeditions of Finley and Boone.* The party proceeded very well till the 8th of June, when about six miles below the mouth of the Wabash, they were attacked by hostile Indians, and taken prisoners to Fort St. Vincent. Here they were released by the interference of friendly Indians. Shortly after which, the Colonel met with *Pontiac*, the great chief of the Ottowas, together with deputies from four of the Illinois tribes, on their way to Detroit, to meet Col. Bradstreet in council, according to his invitation.

In the meantime, Capt. Sterling, at the head of a company, descended the Ohio, in order to take possession of Fort Chartres, about 25 miles above the mouth of the river Kaskaskia. This seems to have been in the month of July, 1765, when St. Ange delivered the last stronghold of his country, east of the Mississippi, to the British; while he repaired to the recent village of Saint Louis, so fortunately and wisely founded by La Clede, assisted by Auguste and Pierre Chouteau, for his Indian trade. On the 15th of February, 1764, this Indian factory had been established, which has now assumed a proud and towering place in the valley of the great river, whose banks it graces.† Vincennes, or Fort St. Vincent, seems to have been taken possession of by the British, since Gen. Gage's proclamatiou of 1772 implies it; but the precise point of time, the author has not been able to discover.‡

Thus affairs stood on the northern or northwestern side of the Ohio valley. The Indians imperfectly reconciled to their new masters, and the French fur-traders still less reconciled to the dominion of the ancient enemies and rivals of old France. The principal trade of the country was with Montreal, by way of the lakes, and with New Orleans; it was almost exclusively in the hands of the French.

Let us now turn to the southern or southwestern side of the Ohio. The old discontents between the intrusive settlers and the

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* Conspiracy of Pontiac, p. 539, 553. Pioneer History, p. 68. Butler's Kentucky, 2d ed. for this early journal of western exploration by the English.

† Conspiracy of Pontiac, p. 559. Western Annals, p. 179, 1st edit. Dillon's Indiana, I, 95.

‡ Dillon, 100, 101.

Indians again presented themselves—the old story of frontier grievances—the whites settling on the Indian lands, surveyors with their ominous chain and compass, patrolling the woods, and marking the boundaries of new settlements for the white people.

These offences against the Indian wounded him in his most sensitive feelings, the love of his hunting grounds, of himself, and his fathers. They are referred to in many public documents of the times.* The Assembly of Virginia was informed by the President of the Council, "that a set of men, regardless of the laws of natural justice, unmindful of the duties thy owe to society, and in contempt of royal proclamations, have dared to settle themselves upon the lands near Red Stone Creek and Cheat River, which are the *property of the Indians.*" This information was based upon communications from Gen. Gage, then commander in chief of the British forces in North America, as well as from Sir William Johnson, Superintendent of Indian affairs. In consequence of these discontents of the Indians, and the urgency of the provincial governments of Pennsylvania and Virginia, orders were received by Sir William Johnson, "to complete the purchase of the lands from the Alleghany mountain to the river Ohio." Some of these intrusions upon the hunting grounds of the Indians may very appropriately be introduced here.

Those on the near frontier of Virginia have just been mentioned. Others which have gradually led to the extension of the settlements to the present wonderful degree, were now in contemplation.

The first of our own American race, who seems to have penetrated the canebrakes of what has since been termed Kentucky, were Doctor Walker, believed to be Thomas Walker, and Christopher Gist, both of Virginia, and James Smith, of Pennsylvania. What might have prompted Doctor Walker to make so adventurous an expedition to western Virginia, as it must have been at that time, there are no means of knowing. He ranked high in the confidence of Virginia, as is proved by his frequent appointments under that colony. He was a commissioner of that colony at the treaty of Fort Stanwix, in 1768; again in 1769; and afterwards was appointed to run the line between North Carolina and Virginia, in 1780. In what direction this gentleman travelled, is not well known; but he informed the late Hon. John Brown, (who is the author's authority,) that in 1747, he visited the southeastern parts of the future State; gave its name (after the bloody Duke, the royal *butcher* of England,) to the Cumberland river, and Louisa to the Big Sandy river, now confined to one of its eastern branches. The same name was also applied to the Kentucky river; and is so used in the treaty of Wataga, in 1775.

* See appendix, Treaty of Fort Stanwix.
† History of Kentucky, 2d edit., p. 475.

Of Christopher Gist much more is known. He was the guide and companion of Washington, in 1754; and he seems to have been well prepared for this employment by former adventures in wood-craft of no common daring. In 1750, he set off, in the employment of the celebrated Ohio company formerly mentioned.*

Beyond its title, little is to be learned from this early journal, judging from the partial extracts which are published.† He visited the country on the Big Miami, and the Scioto.‡ It is singularly indicative of the incurious literary spirit of the western public, that the memory of so daring an explorer should have been permitted to sleep in oblivion, until awakened by a New England scholar.

James Smith then presents himself as another volunteer in this hazardous travelling. This bold man appears to have been born in the western part of Pennsylvania. In early life, when only a young man, he was captured by the Indians, and carried prisoner to Fort Duquesne, when in the possession of the French. He was a prisoner at the time of Braddock's sad defeat, and witnessed the triumph of the Indians and their horrid hostilities inflicted on the prisoners. He himself was adopted into an Indian family, and remained with them for about five years. He then made his escape, was sent with other white prisoners to Montreal, and thence to Crown Point, from which he managed to return to his old white home in Pennsylvania. In 1766, smitten with the contagious passion of adventure in the new lands to the West, of which he had heard so much among his Indian associates. This brave woodsman travelled to the western country, and thence westward, in company with four white men and a mulatto boy. "We explored south of Kentucky, (Quere River,) and there was no more sign of white men there, than there is now west of the head-waters of the Missouri. He also explored Cumberland and Tennessee rivers, from Stone's River down to the Ohio."*

* This journal is quoted under its title: "*A Journal of Christopher Gist's journey began at Colonel Cresap's, at the old town* (now Cumberland,) *on the Potomac river, Maryland, October 31st*, 1750, *continued down the Ohio river, within fifteen miles of the falls thereof;* (now Louisville, in Kentucky,) *and from thence to Roanoke river, in North Carolina, where he arrived in May*, 1751."

† Pioneer Histoay, pp. 26, 32.

‡ Washington Writings, II. vol.

STATISTICAL DEPARTMENT.

Statement exhibiting a condensed view of the tonnage of the several districts of the U. States on the 30th of June, 1852.

DISTRICTS.	Registered tonnage.	Enrolled and licens'd tonn.	Total tonnage of each district.
	Tons and 95ths.		
Passamaquoddy, Maine....	13,954 74	17,467 49	31,422 28
Machias, do.....	3,507 54	22,644 68	26,152 27
Frenchman's Bay, do.....	1,669 38	36,750 09	38,419 47
Penobscot, do.....	6,701 09	37,167 51	43,868 60
Belfast, do.....	15,315 49	36,729 22	52,044 71
Bangor, do.....	12,570 22	19,660 28	32,230 50
Waldoborough, do.....	46,481 13	66,226 06	112,707 19
Wiscasset, do.....	6,303 66	14,416 74	20,720 45
Bath, do.....	84,695 88	26,545 49	111,241 42
Portland, do.....	77,575 40	28,403 49	105,978 89
Saco, do.....	379 76	1,657 29	2,037 10
Kennebunk, do.....	10,862 84	3,616 59	14,479 48
York, do.....	.....	1,503 39	1,503 39
Portsmouth, New Hampshire	16,654 11	8,237 16	24,891 27
Burlington, Vermont...	.....	5,656 66	5,656 66
Newburyport, Massachusets	20,308 45	9,121 86	29,403 39
Ipswhich, do.....	.....	521 10	521 10
Gloucester, do.....	2,139 11	23,941 07	26,081 18
Salem, do.....	20,613 73	9,851 59	30,465 37
Beverly, do.....	.....	4,152 07	4,152 07
Marblehead, do.....	1,191 91	6,114 42	7,306 38
Boston, do.....	326,539 73	54,548 52	381,088 30
Plymouth, do.....	3,368 43	9,365 35	12,733 78
Fall River, do.....	3,808 64	11,375 48	15,184 17
New Bedford, do.....	139,062 49	10,145 32	149,207 81
Barnstable, do.....	8,828 58	67,568 50	76,394 13
Edgartown, do.....	5,796 49	2,174 35	7,970 84
Nantucket, do.....	23,779 67	3,451 48	27,231 20
Providence, Rhode Island	9,095 16	7,326 82	16,422 03
Bristol, do.....	11,464 26	2,162 44	13,626 70
Newport, do.....	6,301 12	4,699 28	11,000 30
Middletown, Connecticut	.....	14,431 81	14,431 81
New London, do.....	23,281 03	18,829 24	42,110 27
Stonington, do.....	15,106 46	8,055 56	23,162 07
New Haven, do.....	6,692 86	13,425 22	20,118 13
Fairfield, do.....	757 54	24,508 39	25,265 96
Champlain, New York	.....	6,258 61	6,258 69
Sackett's Harbor, do.....	.....	7,082 66	7,082 61

STATEMENT—Continued.

DISTRICTS.		Registered tonnage.	Enrolled and licensed tonnage.	Total tonnage of each district.
		Tons and 95ths.		
Oswego,	New York	.....	26,107 79	26,107 79
Niagara,	do.....	.....	623 55	623 55
Genesee,	do.....	.....	686 01	686 01
Oswegatchie,	do.....	.....	1,985 34	1,985 34
Buffalo Creek,	do.....	.....	49,614 37	49,614 37
Sag Harbor,	do.....	9,292 31	3,749 44	13,041 75
Greenport,	do.....	3,588 58	5,865 62	9,454 25
New York,	do.....	571,955 90	444,643 22	1,016,599 17
Cape Vincent,	do.....	.....	2,171 68	2,171 68
Cold Spring,	do.....	1,038 85	171 94	1,205 84
Perth Amboy,	N. Jersey	.....	21,651 36	21,651 36
Bridgetown,	do.....	.....	14,930 39	14,930 39
Burlington,	do.....	.....	12,066 52	12,066 52
Camden,	do.....	.....	17,448 74	17,448 74
Newark,	do.....	257 94	5,043 90	5,301 89
LittleEggHarbor	do.....	.....	7,561 69	7,561 69
GreatEggHarbor	do.....	159 00	17,041 25	17,173 25
Philadel'a,	Pennsylvania	67,739 74	161,704 19	229,443 93
Presque Isle,	do.....	.....	8,122 71	8,122 71
Pittsburg,	do.....	.....	64,156 24	64,156 24
Wilmington,	Delaware	.....	7,010 40	7,010 40
New Castle,	do.....	.....	2,587 45	2,587 45
Baltimore,	Maryland	95,027 90	64,379 86	159,404 81
Oxford,	do.....	.....	12'984 36	12,984 36
Vienna,	do.....	1,318 24	15,484 48	16,802 72
Snow Hill,	do.....	.....	9,680 10	9,680 10
St. Mary's,	do.....	.....	2,591 31	2,591 31
Town Creek,	do.....	.....	2,124 73	2,124 73
Annapolis,	do.....	.....	2,655 46	2,655 46
Georgetown,	Dis. of Col.	2,955 07	23,241 88	26,197 00
Alexandria,	Virginia	3,219 01	8,323 40	11,542 41
Norfolk,	do.....	7,716 43	14,447 78	22,164 26
Petersburg,	do.....	448 11	2,109 54	2,557 65
Richmond,	do.....	3,077 88	6,099 94	9,177 87
Yorktown,	do.....	.....	5,981 87	5,981 87
Tappahannock,	do.....	181 91	5,439 47	5,621 43
Accom.C.House,	do.....	.....	4,943 70	4,943 70
East River,	do.....	.....	1,815 88	1,815 88
Yeocomico,	do.....	.....	3,533 61	3,533 61
Cherrystone,	do.....	.....	920 94	920 94
Wheeling,	do.....	.....	4,280 58	4,280 58
Wilmington,	N. Carolina	8,385 93	7,093 41	15,479 39
Newbern,	do.....	1,179 25	4,055 53	5,234 78
Washington,	do.....	1,945 42	5,554 76	7,500 23

STATEMENT—Continued.

DISTRICTS.	Registered tonnage.	Enrolled and licensed tonnage.	Total tonnage of each district.
Edenton, N. Carolina	.....	1,639 81	1,639 81
Camden, do.....	1,369 33	11,157 86	12,527 24
Beaufort, do.....	775 68	1,851 03	2,626 71
Plymouth, do.....	2,726 68	1,346 38	4,073 11
Ocracocke, do.....	.....	1,540 01	1,540 01
Charleston, S. Corolina	22,526 32	19,616 30	42,142 62
Georgetown, do.....	1,896 29	2,696 10	4,592 39
Beaufort, do.....	.....	.....	.....
Savannah, do.....	13,052 51	10,909 31	23,961 82
Sunbury, do.....	.....	.....	.....
Brunswick, do.	306 27	853 39	1,159 66
Hardwick, do.....	.....	.....	.....
St. Mary's, do.....	160 84	502 88	663 77
Pensacola, Florida	.....	1,465 44	1,465 44
St. Augustine, do.....	.....	.....	.....
St. Mark's, do.....	.....	118 35	118 35
St. John's, do.....	.....	417 80	417 80
Appalachicola, do.....	.....	1,429 37	1,429 37
Key West, do.....	4,080 56	2,157 40	6,238 01
Mobile, Alabama	7,412 38	21,120 58	28,533 01
Pearl River, Mississippi	.....	1,236 21	1,236 21
Vicksburg do.....	.....	215 83	215 83
New Orleans, Louisiana	81,500 77	184,512 20	266,013 02
Teche, do.....	.....	2,157 68	2,157 68
Nashville, Tennessee	.....	4,082 90	4,082 90
Louisville, Kentucky	.....	11,818 80	11,818 80
St. Louis, Missouri	.....	37,861 87	37,861 87
Chicago, Illinois	.....	25,209 30	25,209 30
Milwaukie, Wisconsin	.....	6,931 44	6,931 44
Cuyahoga, Ohio	.....	38,238 15	38,238 15
Sandusky, do.. ...	.....	5,887 07	5,887 07
Cincinnati, do.....	.....	11,781 30	11,781 30
Miami, do.....	.....	4,431 62	4,431 62
Detroit, Michigan	.....	43,925 21	43,925 21
Michilimackinac do.....	.....	2,366 57	2,366 57
Galveston, Texas	1,488 81	4,003 87	5,492 73
Saluria, do.....	.....	561 45	561 45
Point Isabel, do.....	.....	1,065 62	1,065 62
Astoria, Oregon	1,063 43	.....	1,063 43
S.Francisco, California	55,534 10	42,165 34	97,699 44
Sonoma, do.....	639 58	702 76	1,342 39
Memphis, Tennessee	.....	550 77	550 77
Sacramento, California	629 58	1,982 24	2,611 82
Total.....	1,899,448 20	2,238,992 27	4,138 440 47

N. SARGENT, Register.

TREASURY DEPARTMENT, Register's Office, December 22, 1852.

Statement showing the number and class of vessels built, and the tonnage thereof, in each State and Territory of the U. S., for the year ending on the 30th of June, 1852.

STATES AND TERRITORIES.	CLASS OF VESSELS.					Total number of vessels built.	TOTAL TONNAGE EACH STATE.
	Ships.	Brigs.	Schooners.	Sloops and canal boots.	Steamers.		Tons and 95ths.
Maine	138	63	148	5	....	354	110,047 47
New Hampshire	10	....	4	....	....	14	9,515 22
Vermont	....	....	....	....	....	.....	....
Massachusetts	51	6	97	3	4	161	48,001 56
Rhode Island	4	....	7	2	1	14	3,204 84
Connecticut	8	1	31	20	5	65	9,034 93
New York	26	2	56	50	45	179	72,072 76
New Jersey	....	....	24	12	2	38	3,953 07
Pennsylvania	4	1	19	89	75	188	31,220 33
Delaware	....	....	16	5	2	23	2,923 29
Maryland	13	5	94	....	7	119	18,158 80
District of Columbia	....	....	....	25	2	27	1,995 43
Virginia	....	....	14	16	10	40	3,799 72
North Carolina	....	....	27	4	1	32	2,228 52
South Carolina	....	....	4	....	3	7	939 11
Georgia	....	....	1	....	1	2	322 92
Florida	....	....	1	....	....	1	30 34
Alabama	....	....	2	....	....	2	93 00
Mississippi	....	....	....	....	....	.....	....
Louisiana	....	1	11	....	4	16	1,284 72
Tennessee	....	....	....	....	5	5	479 61
Kentucky	....	....	....	....	27	27	7,312 77
Missouri	....	....	....	5	6	11	2,133 13
Illinois	....	....	7	10	....	17	1,217 28
Wisconsin	....	....	6	3	....	9	555 63
Ohio	1	....	7	17	52	77	18,329 36
Michigan	....	....	8	1	7	16	2,639 00
Texas	....	....	....	....	....	.....	....
California	....	....	....	....	....	.....	....
Oregon	....	....	....	....	....	.....	....
Total	255	79	584	267	259	1,444	351,493 41

N. SARGENT, Register.

TREASURY DEPARTMENT,
Register's Office, December 22, 1852.

[From the "American Railroad Journal of August 13, 1853."]

Railway Share List.

Compiled from the latest returns- corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Total cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official year.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence	Maine	150	1,417,587	3,000,000	4,649,392	200,233	.....	none	100
Androscoggin and Kennebec	do.	55	809,878	1,016,500	2,064,458	140,561	80,053	none	36
Kennebec and Portland	do.	72	876,741	800,000	2,180,000	133,338	.....	none	45
Port., Saco and Portsmouth	do.	51	1,355,500	123,884	1,459,384	208,669	.....	6	100
York and Cumberland	do.	20	227,981	291,200	In progress.	15,694	.....	none	40
Boston, Concord & Montreal, N. Hampshire		93	1,649,278	622,200	2,540,217	150,538	79,659	none	41
Concord	do.	35	1,485,000	none	1,485,000	305,805	141,836	8	109
Cheshire	do.	54	2,078,625	720,900	3,002,094	287,768	55,266	5	47
Northern	do.	82	3,016,634	.....	.....	328,782	163,075	5	59
Manchester and Lawrence	do.	24	717,543	.....	.....	.....	.....	6½	96½
Nashua and Lowell	do.	15	600,000	none	651,214	132,545	51,513	8	109
Portsmouth and Concord	do.	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	do.	26	.....	.....	673,500	.....	.....	none	14
Connecticut and Passumpsic	Vermont	61	1,097,600	550,000	1,745,516	.....	.....	none	41
Rutland	do.	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	32½
Vermont Central	do.	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	17
Vermont and Canada	do.	47	1,500,000	.....	1,500,000	Leased to the Vt. Cent.			102
Western Vermont	do.	51	392,000	700,000	.....	Recently opened.		none	.....
Vermont Valley	do.	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell	Massachusetts	28	1,830,000	.....	1,995,249	388,108	130,881	7½	99
Boston and Maine	do.	83	4,076,974	150,000	4,092,927	659,001	338,215	7	106¾

Boston and Providence	do.	53	3,160,390	390,000	3,546,214	469,656	227,434	6	87¾
Boston and Worcester	do.	69	4,500,000	425,000	4,845,967	758,819	331,296	7	101¼
Cape Cod Branch	do.	28	421,295	171,800	633,906	60,743	30,056	2½	40
Connecticut River	do.	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	do.	75	2,850,000	500,000	3,120,391	488,793	241,017	7½	93
Fall River	do.	42	1,050,000	none.	1,050,000	229,445	99,589	8	104¾
Fitchburg	do.	66	3,540,000	112,305	3,623,073	574,574	232,787	6	99¾
New Bedford and Taunton	do.	20	500,000	none	520,475	164,230	43,950	7½	117
Norfolk County	do.	26	547,015	819,743	1,245,927	67,251	23,415	none	68
Old Colony	do.	45	1,964,070	282,300	2,293,534	322,213	101,510	none	92
Taunton Branch	do.	12	259,000	none.	307,136	137,406	24,399	8	.....
Vermont and Massachusetts	do.	77	2,140,536	1,001,500	3,205,333	218,679	18,648	none	18
Worcester and Nashua	do.	45	1,134,000	171,210	1,321,945	162,109	66,900	4½	59½
Western	do.	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6½	99½
Stonington	Rhode Island	50	.....	.....	.....	.....	.....	.....	58½
Providence and Worcester	do.	40	1,457,500	300,000	1,731,498	253,690	139,514	6	.....
Canal	Connecticut	45	.....	.....	.....	.....	.....	10	.....
Hartford and New Haven	do.	62	3,000,000	472,000	.....	600,408	332,223	none	125
Housatonic	do.	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Providence and Fishkill	do.	50	.....	.....	In progress.	69,629	.....	none	.....
New London, Wil. and Palmer	do.	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven	do.	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	102
Naugatuck	do.	62	926,000	440,000	.....	.....	.....	.....	.....
New London and New Haven	do.	55	750,500	650,000	1,380,610	Recently	opened.	none	45
Norwich and Worcester	do.	54	2,121,110	701,600	2,596,488	207,561	116,965	4½	54¼
Buffalo and New York City	New York	91	900,000	1,550,000	2,550,500	Recently	opened.	none	85

RAILWAY SHARE LIST—Continued.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Total cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official year.	Dividend for do.	Price of Shares.
Buffalo, Corning and N York	N. Y.	132	.....	.....	In progress.	.....	.....	none	65
Buffalo and State Line	do.	69	879,636	872,000	1,921,270	Recently	opened.	.....	130
Canandaigua and Niagara F.	do.	50	.....	.....	In progress.	.....	.....	.....	.....
Canandaigua and Elmira	do.	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna...	do.	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie (New York and Erie)..	do.	464	9,612,995	24,003,865	31,301,806	3,537,766	1,691,623	7	69½
Hudson River.....	do.	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	67
Harlem	do.	130	4,725,250	977,463	6,102,935	681,545	324,494	5	57¾
Long Island	do.	95	1,875,148	516,246	2,446,391	205,068	44,070	none	31½
New York Central	do.	504	22,858,600	2,111,824	.....	.....	.....	.....	115½
Ogdensburgh (Northern) ...	do.	118	1,579,969	2,969,760	5,133,834	408,137	195,847	none	36½
Oswego and Syracuse.....	do.	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal.....	do.	23	174,042	131,000	349,775	Recently	opened.	none	.....
Rensselaer and Saratoga	do.	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington....	do.	60	850,000	400,000	1,250,000	Recently	opened.	.....	.....
Saratoga and Washington...	do.	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland	do.	32	237,690	100,000	329,577	Recently	opened.	.....	33
Troy and Boston.....	do.	39	430,936	700,000	1,043.357	Recently	opened.	none	.....
Watertown and Rome	do.	96	1,011,940	650,000	1,693,711	225,152	116,706	8	109
Camden and Amboy.....	N. Jersey	65	1,500,000	.....	4,327,498	1,388,385	478,413	10	150
Morris and Essex	do.	45	1,022,420	128,000	1,220,325	149,941	79,252	4	.....

New Jersey	do.	31	2,197,840	476,000	3,245,720	603,942	316,259	10	148
New Jersey Central	do.	63	986,106	1,500,000	2,379,880	260,899	124,740	3½	.....
Cumberland Valley	Pennsylvania	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East	do.	20	600,000	.....	750,000	Recently opened.		.....	125
Harrisburgh and Lancaster	do.	36	783,950	688,051	1,609,494	200,249	106,932	8	.....
Philadelphia and Reading	do.	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	84
Philad., Wilmingt. and Balt.	do.	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	75
Pennsylvania Central	do.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	.....	99¾
Philadelphia and Trenton	do.	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.	do.	47	.....	.....	.....	.....	.....	.....	.....
Baltimore and Ohio	Maryland	381	9,188,900	9,827,123	19,542,307	1,325,563	615,384	7	65
Washington Branch	do.	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna	do.	57	.....	.....	.....	413,673	152,536	.....	42
Alexandria and Orange	Virginia	65	.....	.....	In progress.	.....	.....	.....	.....
Manassas Gap	do.	27	.....	.....	In progress.	.....	.....	.....	.....
Petersburgh	do.	64	.....	.....	.....	.....	.....	.....	.....
Richmond and Danville	do.	73	1,372,324	200,000	In progress.	.....	.....	.....	.....
Richmond and Petersburgh	do.	22	685,000	.....	1,100,000	122,861	74,113	none	.....
Rich., Fred. and Potomac	do.	76	1,000,000	503,006	1,531,238	254,376	113,256	7	105
South Side	do.	62	1,328,722	800,000	In progress.	.....	.....	.....	.....
Virginia Central	do.	107	1,400,100	446,036	In progress.	176,485	74,902	none	.....
Virginia and Tennessee	do.	60	3,000,000	1,500,000	In progress.	.....	.....	none	.....
Winchester and Potomac	do.	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh	N. Car.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina	S. Car.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia	do.	140	1,004,231	300,000	In progress.	.....	.....	.....	.....

RAILWAY SHARE LIST—Continued.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Total cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official year.	Dividend for do	Price of Shares.
South Carolina	S. Car.	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester	do.	.....	.....	.....	In progress.	.....	.....	.....	.....
Georgia Central	Georgia	191	3,100,000	306,187	3,378,132	945,508	508,625	8	122
Georgia	do.	211	4,000,000	1,214	.....	934,424	465,468	7½	.....
Macon and Western	do.	101	1,214,283	168,000	1,596,283	296,584	153,697	9	109
Muscogee	do.	71	.....	.....	In progress.	.....	.....	.....	.....
South Western	do.	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee Riv.	Alabama	55	.....	.....	In progress.	.....	.....	.....	.....
Memphis and Charleston	do.	93	776,259	400,000	In progress.	.....	.....	.....	.....
Mobile and Ohio	do.	33	879,868	.....	In progress.	.....	.....	.....	.....
Montgomery and West Point	do.	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern	Missis.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia	Tenn.	80	835,605	541,000	In progress.	.....	.....	.....	.....
Nashville and Chattanooga	do.	125	2,093,814	850,000	In progress.	.....	.....	.....	.....
Covington and Lexington	Ky.	.....	1,430,150	1,100,000	In progress.	.....	.....	.....	.....
Frankfort and Lexington	do.	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort	do.	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington	do.	.....	.....	.....	In progress.	.....	.....	.....	.....
Cleveland and Pittsburg	Ohio	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	96

Cleveland, Painesv. and Ash	do.	71	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus	do.	135	3,027,000	408,200	3,655,000	777,798	483,454	12	132
Columbus, Piqua and Indiana	do.	——	.....	.....	In progress.	.....	.....	.....	.....
Columbus and Lake Erie	do.	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton	do.	60	1,694,000	906,000	2,600,000	321,793	200,967	.....	115
Cincinnati and Marietta	do.	——	.....	.....	In progress.	.....	.....	.....	72½
Dayton and Western	do.	40	310,000	550,000	925,000	Recently opened.		.....	80
Dayton and Michigan	do.	20	.....	.....	In progress.	.....	.....	.....	.....
Eaton and Hamilton	do.	36	.....	.....	.....	.....	.....	.....	70
Greenville and Miami	do.	31	.....	.....	.....	.....	.....	.....	.....
Hil sboro	do.	37	.....	.....	In progress.	.....	.....	.....	.....
Little Miami	do.	84	2,370,784	.....	2,634,157	526,746	314,670	10	119½
Mansfield and Sandusky	do.	——	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie	do.	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio Central	do.	57	.....	.....	In progress.	.....	.....	.....	.....
Ohio and Mississippi	do.	——	.....	.....	"	.....	.....	.....	95
Ohio and Pennsylvania	do.	187	1,750,700	2,450,000	.....	Recently opened.		.....	.....
Ohio and Indiana	do.	——	.....	.....	In progress.	.....	.....	.....	.....
Scioto and Hocking Valley	do.	——	.....	.....	"	.....	.....	.....	.....
Toledo, Norwalk and Clevel'd	do.	87	552,000	800,000	1,317,140	Recently opened.		.....	150
Xenia and Columbus	do.	54	1,092,137	119,500	1,257,714	237,506	135,363	15	.....
Evansville and Illinois,	Indiana	31	.....	.....	In progress.	.....	.....	.....	.....
Indiana Central	do.	——	.....	.....	"	.....	.....	.....	.....
Indiana Northern	do.	131	.....	.....	"	Recently opened.		.....	.....
Indianapolis and Bellefontaine	do.	83	.....	.....	"	.....	.....	.....	.....
Lawrenceburg and Ind.	do.	——	.....	.....	In progress.	.....	.....	.....	75

RAILWAY SHARE LIST.

Continued.

Name of Company.	Miles open.	Capital paid in.	Funded debt.	Total cost of road and equipment.	Gross Earnings for last official year.	Net earnings for last official year.	Dividend for do.	Prices of shares.
Lafayette and Indianapolis, Indiana	62	—	—	—	Recently	opened.	—	—
Madison and Indianapolis do.	88	1,650,000	750,000	2,400,000	516,414	268,075	10	85
Peru and Indianapolis do.	40	—	—	In progress.	—	—	—	—
Terre Haute and Indianapolis do.	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago do.	—	—	—	—	—	—	—	—
Chicago and Mississippi do.	—	—	—	—	—	—	—	—
Illinois Central, Illinois	—	—	—	—	—	—	—	136
Galena and Chicago do.	92	1,932,361	500,000	In progress.	473,548	286,152	—	124
Michigan Southern Michigan	315	2,499,410	2,629,000	6,430,246	592,187	293,046	—	128
Michigan Central do.	282	4,000,000	4,067,396	8,614,193	—	—	8	109½
Pacific,* Missouri	38	1,000,000	none	In progress.	Recently	opened.	—	

* The Statistics relating to this road have been furnished by the President, Thomas Allen, Esq.—*Editors W. J. & C.*

JOURNAL OF INTERNAL IMPROVEMENTS.

Little Rock and Jacksonport Railroad.

RAILROAD SYSTEM OF ARKANSAS. COST OF THE ROAD AND CHARACTER OF THE COUNTRY BETWEEN LITTLE ROCK AND JACKSONPORT. AMOUNT AND VALUE OF LANDS GRANTED FOR THIS ROAD. EXCESS OVER COST. LOCAL AND NATIONAL CONSIDERATIONS. MISSISSIPPI VALLEY RAILROAD. ACTION OF MISSOURI. PROSPECTIVE RESULTS.

The system of railroads in Arkansas is singularly harmonious. It combines local interests with national advantages. It embraces the North, South, East and West of the State, and points toward every part of the Union. One portion offers increased facilities for wealth and comfort to the counties on the Arkansas river, and those between Little Rock and the Mississippi river, while the other portion crosses the Arkansas river at nearly right angles in the center of the State, and offers almost the only hope that could reasonably be realized by the interior counties.

Each portion of the system will have its particular friends and advocates. The east and west portion will be strongly supported by those who already enjoy, mainly, the facilities of the river. The north and south portion will be resolutely maintained by those along the line who are most in want of a channel for access to market and communication with the rest of the world.

It may be questionable where the first spadeful of earth will be thrown in the beginning of the work. It may be, the work will be commenced at various points at the same time. It is, at least, fair to presume that the road for which Congress granted lands, and Pulaski county, and various others, subscribed their Internal Improvement Fund, and individuals have given liberal private subscriptions and right of way, and for which also the Government of the United States has made a preliminary survey—it is fair, we say, to presume that this road will be one of the first to be built. This fact being acknowledged, it follows, that all the practical information to be gained on this subject, calculated to promote the prosperity of the enterprise, should be collected and presented, plainly, before those who are interested either directly or indirectly in the uninterrupted progress of the work, and its speedy completion.

Therefore, we will recur to Capt. Barney's survey, and gather from his report material information, in regard to the cost of the road, and the character of the country, from Little Rock to Jacksonport; we will also show the amount of lands granted by Congress applicable to this portion; the probable average value of those particular lands; and the local as well as national wants which this link of 80 miles will supply.

Beginning at a point on the right bank of White River, nearly opposite the mouth of Black River, and the town of Jacksonport, Arkansas, Capt. Barney commenced the 4th section of the 4th division of his survey for a railroad from St. Louis, Mo., to Fulton, Ark. This point is 255 miles from St. Louis, and 80 miles from the Missouri line, along the route of his survey. The 4th section of the 4th division is 16½ miles long, and reaches near Glaize creek. It "extends over ground of about 4½ miles in extent, subject in many places to be overflowed by the high waters of the river, when it strikes more elevated and dry lands." "It crosses a morass of about half a mile in width," a branch of the Departee, and making an offset of about one mile in extent, to avoid the high hills which border the valley on the right, the line crosses a depression in a spur of the hills, which is the highest point that would necessarily be encountered between White and Little Red rivers. This point is 10 miles from White river; and it is more than probable that a straight line from a point 10 miles above the Missouri line "to this point, would pass over ground quite as favorable for the construction of a railroad, as that over which the survey was made. This would make 100 miles in one right line."

The report shows that:

"After passing the spur above mentioned, the line takes a course S. 32° 30′ W. again, and passes along the base of the hills bordering a branch of the Departee bayou; in which hills, both lime and granite rocks occur. It crosses then some bottom land of about four miles in extent, which is inundated in times of high-water, to the depth of 6 or 7 feet, and in many places to the depth of 10 feet. The ground thence to the end of the section is dry, and above the reach of freshets."

"There will be an aggregate rise of two feet in this section. The road will be undulating, but the gradient will in no instance exceed twenty-five feet per mile."

The timber on the 4th division is very much the same as that on the 3d division, which the report describes as being generally of very large size, consisting of the varieties of oak, hickory, ash,

elm, sweet gum and maple. In the sloughs and low swampy grounds there is a mixed growth of cypress and cupola gum. The cane on this division is described as being very large, and quite an impediment to the progress of the survey.

The 5th division extends 64 miles, to the left bank of the Arkansas river, near Little Rock.

As this division appears to be the most interesting and advantageous one in the whole line of the survey—being through some of the best lands in the middle of the State, and over what Mitchell lays down on his map as the COTTON REGION—we will here present the report of it in full, premising that the stations are uniformly 300 feet in length.

"Section 1st extends to station 5056, on the left bank of Little Red river, thirteen and three-fourth miles.

This section extends over a bench or table land, which is cut transversely with the line of the survey by numerous small streams, requiring bridges and culverts. After crossing a large branch of Glaize creek, the course of the line was changed S. 42° W., which was supposed would avoid the high lands, and strike the Arkansas river a short distance below Little Rock; but it was found necessary to make an offset at station 4979, of five hundred feet, to avoid a spur of the second bench of high land, from whence the line was continued at S. 42°W. The surface of the ground is undulating on this section, requiring some slight ascents and descents in the grade. The quantity of embankment preponderates; but the grading would be light, and the excavations would consist almost entirely of light clay-loam. The ground in the vicinity of the large branches of Glaize creek which are crossed by the line, is, as usual, near the water-courses—overflowed in times of freshets.

There will be required for crossing the larger branches of Glaize creek, one bridge of one hundred, one of seventy-five, two of fifty, two of thirty, two of twenty, and two of fifteen feet span each; besides nineteen smaller bridges or culverts, for crossing the smaller branches and drains. The total descent in this section is twenty-two feet; the gradients in no place will exceed twenty-one feet per mile.

Section 2d extends to station 5238, on the left bank of bayou Desarc, distance ten and one-third miles.

Little Red river was crossed by the line at station 5058; but at stations 5065 and 5073, it was found necessary to make offsets amounting to fourteen hundred feet, to avoid the river again, which, running about S. 10° E., where the line crossed, doubles round, and meets the line again at station 5065, running nearly northwest.

After leaving the river, the route passes to the north of Colonel Bracy's cotton plantation, and passes over ground gently undulating for about four miles, making an ascent in this distance of about twelve and a half feet, and crosses several small brooks and runs. It continues thence, to the end of the section, over a comparatively uniform surface, on which embankment will preponderate; making a descent of about twelve and a half feet.

The grading on this section will be light, and the excavations, as in section first of this division, will consist of clay-loam.

The line passes through the improvements of Alexander Crawford, John Griffins, Dr. Waters, and one or two others.

There will be required one bridge of fifty, one of thirty, three of twenty, and one of fifteen feet span, besides eight smaller bridges or culverts.

The two extremes of this section are on the same level; the gradients will in no place exceed eleven feet per mile.

The bridge for crossing Little Red river, five hundred feet in length.

Section 3d extends to station 5452, on the left bank of Cypress creek, twelve and one tenth miles.

This section extends over a gently undulating surface, and on very favorable ground, not subject to be overflowed, except in the immediate vicinity of the large creeks, where the embankments would not necessarily be very high nor extensive. The grading would consist of embankments generally. The excavations would be clay-loam.

The line crosses bayou Desarc seven times in a distance of half a mile, passing over a number of very short bends, all of which would be avoided on a location; and but one bridge would be necessary for passing this stream. It also crosses Cane creek, at station 5300; and Bull bayou at station 5375. These streams would require bridges of one hundred and fifty, seventy-five, and one hundred and fifty feet in length, respectively; and two bridges of thirty, and four of twenty feet span, besides four smaller bridges or culverts, would be necessary for crossing smaller streams.

The two extremes of this section are also on a level; the gradients in no place exceed seventeen and a half feet per mile. The route passes through a forest, without touching an improvement of any kind.

Section 4th extends to station 5680, 13 $\frac{1}{10}$ miles. Several elevated ridges, which divide between the waters flowing into Little Red river and Cypress creek or bayou, on the northeast, and those which, in a more direct course, empty into the Arkansas river on the southwest, are crossed by the route on this section; and the general appearance of the country traversed is broken and hilly, intersected by numerous tributaries of the larger streams above mentioned.

There is no appearance whatever of rock on any of the ridges, and the excavations would be of the most simple character.

The road from the post of Arkansas to Fort Smith is crossed at station 5552, on the farm of John M. Bell, Esq.

The main road, from Little Rock to Searcy and Batesville, is crossed at station 5631, near the summit of one of the ridges, on the farm of Taylor Whitley. Several other cultivated fields were crossed; but the country in general is very little improved. The work on this section is, in general, light, and will consist of alternate cuts and fills, in which the excavation and embankment is nearly equalized.

The elevation of the highest ridge crossed is 125 feet above the grade at the end of section 3d, or 75 feet below the level of high water at St. Louis. The gradients in general are moderate ; but in one instance it exceeds 50 feet per mile. The total rise in the section is 29 feet. One bridge of 140 feet in length will be necessary for crossing Cypress creek; and six bridges of 25 feet, three of 20 feet, and twenty-one culverts, will be required for crossing the smaller streams.

Section 5th extends to station 5952, the end of 5th division. The ground is generally low and flat on this section, and, with the exception of some very slight cutting betwean stations 5745 snd 5756, the grading would consist almost entirely of embankments, which would not average more than about three feet in height for the entire distance.

The line crosses branches of bayou Two Prairies, at stations 5680 and 5701; bayou Meto, at station 5758; and Ink bayou, at station 5844. The waters of the two former flow in a south-east direction, meander in a serpentine course through extensive prairies, and empty into the Arkansas, near the south bend. The latter flows in a south and more direct course to the Arkansas.

A number of extensive sloughs and cypress swamps are also crossed ; but they will require only embankments of a simple nature, with occasional passage-ways for water, which would be constructed on piles. The road leading from Little Rock to Memphis was crossed at station 5746, on the farm of Redick Eason, about 14 miles by said road from Little Rock.

There will be required for bridging the several streams and runs, one bridge of 100, one of 60, two of 50, and one of 30 feet in length; besides eleven smaller bridges or culverts.

The total rise in this section will be one foot. The gradients in no place will exceed 44 feet per mile; and but in two instances, in both of which the ascent is short, will they exceed 14 feet per mile.

The 5th division, 64 miles in length, extends over a section of country more diversified in its general character than the two preceding divisions. Commencing in the valley of Glaize creek, it crosses thence to Little Red river, over an undulating surface of land, and near the base of a range of hills which form a second

bench of more elevated country. The ground over which the route passes is entirely free from stone of any kind; whilst the hills of the second bench are generally a mass of sand rock. To avoid these hills, the course taken by the survey, after crossing the first branch of Glaize creek, was S. 42° W.; which course was continued to the bank of the Arkansas river, intersecting it about three miles below Little Rock. We found the section of country lying between Glaize creek and Little Red river very much broken by the valleys of the small streams which flow from the high lands in wet weather, and between which the spurs of the hills protruded in places to some extent on the second bench. At station 4979 the line touched one of the spurs, which was quite flat on the top, for a considerable extent, and elevated about two feet above the general level of the second bench. It appeared, as before mentioned, to be one mass of sand rock. The line passed near the base of the hills for several miles; and their altitude appeared to vary from 30 to 100 feet. The slopes, in all places visible from the route, were covered with masses and fragments of rock.

There is something very peculiar in the flat lands in this district of country; which are elevated slightly above the river bottoms, and which occur, over a section of about six miles, between stations 4887 and 5013. The general aspect here is level, or has a very slight but uniform inclination; whilst the surface is covered with innumerable little hillocks or mounds, generally with a circular or oval base, of twenty to one hundred and fifty feet diameter; nearly flat on top; and varying in altitude, above the level of the plain, from one to four or five feet.

The route crosses Little Red river, at the farm of Americus Vanmeter, about two miles below Prospect bluffs. The river is here, as it is for some distance above, confined within its banks, except in cases of extremely high freshets; when the banks, for a short distance, are overflowed to the depth of one or two feet. The distance across, from bank to bank, is 500 feet; and the elevation of the bank above the surface at low water is 29 feet. Points, equally favorable, may be found for crossing the river above this place; and the route could be so altered as to run in a direct line from station 4979 (where the spur of the high land was touched) to a suitable place for crossing the Arkansas river; which would be about 1¾ mile above the point at which the survey was crossed.

The general aspect of the country lying between Little Red river and the Arkansas, in the vicinity of the route surveyed, is very similar; and it is believed a road located in a direct line, so as to cross the Arkansas 1¾ mile higher up, as above suggested, could be constructed with equal facilities, and at the same expense.

The country from one extreme to the other of this division, with very little exception, is covered with a large growth of forest trees, which consist of the varieties of oak, gum, ash, maple, hickory,

elm, &c., with underbrush and green-brier. In the swamps and bottom-lands the cypress and willow-oak predominate.

There are some extensive cypress swamps in the vicinity of the Arkansas river, but embankments can without difficulty be constructed over them.

Very little cultivated land was crossed by the route in this section. Improvements are sparse, and only exist in the immediate neighborhood of the larger streams, and at intervals along the principal roads.

The work on this division will, in general, be very light.

At the time the survey was made, there was no running water in any of the streams crossed on this division, except Little Red river. Many of the water-courses were completely dried up; and in most of the others, water was only to be found in stagnant pools, in the beds of the streams. The flat lands are always very wet in rainy weather, and it would be found necessary, as well as less expensive, to construct the road on embankment generally.

The most elevated point crossed by the route between the St. Francois and Arkansas rivers is at station 5593, on the ridge between Cypress creek and Arkansas river; which is 75 feet below high water of the Missssippi at St. Louis, and 116 feet above the low water of the Arkansas. Another elevated point crossed, is where the route intersects the road from Searcy to Little Rock, at station 5637; which is 11 feet lower than the point above mentioned.

This division embraces a district of country in which the culture of cotton has been introduced, and may be considered the principal staple commodity The article produced is of fair quality."

In order to present a full view of the various items of the cost of the Little Rock and Jacksonport Railroad, we will quote the Table of Estimates of the fourth section of the fourth division, also the Table of Estimates of the fifth division, from the report:

TABLE OF ESTIMATES.

FOURTH SECTION OF FOURTH DIVISION.

Number of sections.	Clearing and grubbing.		Excavation and embankment.		Masonry and Bridges.		Bridging.	
	No. of rods.	Cost, in dollars.	No. of cub. yds.	Cost, in dollars.	No. of perches.	Cost, in dollars.	Number of feet.	Cost, in dollars.
4	4,500	13,500	160,000	55,200	840	2,520	310	9,300
4			156,600	23,490	390	1,560	190	1,900
4			1,000	1,000				
Total cost.		13,500		79,690		4,080		11,200

Total cost of clearing and grubbing		$13,500
do.	excavation and embankment	79,690
do.	masonry	4,080
do.	bridging	11,200
do.	for grading and bridging	$108,470

TABLE OF ESTIMATES.

FIFTH DIVISION.

Number of section.	Clearing and grubbing.		Excavation and embankment.		Masonry for bridges.		Masonry for culverts and sidewalls.		Bridging.	
	No. of rods.	Cost, in dollars.	No. of cub. yds.	Cost in dollars.	No. of perches.	Cost, in dollars.	No. of perches.	Cost, in dollars.	Number of feet.	Cost, in dollars.
1	2,850	8,550	306,575	45,986	2,616	7,848	722	1,444	295	8,850
1	2,880	8,640	232,088	34,813	1,842	9,210	304	608	110	1 100
2	3,200	9,600	240,124	36,186	982	2,946	96	240	550	16,500
2	3,500	10,500	327,109	49,066	1,134	3,372			Draw 150	5,000 1,500
2	4,100	12,300	282,043	57,306	1,560	4,680	315	784	435	13,050
3					2,088	6,264	795	2,337	80	800
3									140	4,200
4									210	2,100
4									260	7,800
5									80	800
5										
Total cost.		49,590		223357		34820		5,413		61,700

Total cost for clearing and grubbing		$49,590
Do.	excavation and embankment	223,357
Do.	masonry	39,733
Do.	bridging	61,700
Total cost for grading and bridging		374,380

Therefore, by adding the total cost for grading and bridging the 4th section of the 4th division $108,470, to the total cost for grading and bridging the 5th division $374,380, we find that the total cost for grading and bridging the road from Little Rock to Jacksonport, 80 miles, is 482,850.

To this sum add the estimate by Capt. Barney of "cost of superstructure with iron rail (65 pounds per yard,) with necessary sidlings and switches, &c.," 80 miles, at $7,500 per mile, $600,000

and cost of engineer department and contingencies at about $1,000 per mile, 80,000

$680,000

And to this add cost of station and engine houses, machine shops, cars, locomotives, &c., equipments for complete operation, at the very liberal rate of $3,000 per mile, $240,000

920,000

The total cost of grading and bridging being 482,850

The total cost of the road in first rate operating order is found to be $1,402,850

The cost of the road and the character of the country being thus clearly shown, we will proceed to discover the amount and probable average value of the lands granted by Congress, which according to the grant are to be applied to this portion of the main trunk.

This portion being 80 miles long, and the grant being for an equivalent within the range of thirty miles of six sections in solid body, throughout the whole length: the number of sections granted to this portion is 480; and as there are 640 acres in each section, the amount of land granted which is applicable to the Little Rock and Jacksonport Railroad is 307,200 acres.

These lands being among the richest in the State and most easily turned into profitable use, of any included in the grant, may be reasonably estimated as worth, on the location of the road, at least $5,00 per acre, on an average. This estimate is only one half as high as that made of the prospective value of the North Missouri lands, by James M. Bucklin, Esq., Chief Engineer of the Hannibal and St. Joseph Railroad, which estimate is admirably sustained by the sound basis of his calculation.

Assuming; then, that the average value of these particular lands will be $5,00 per acre, on the location of the road; the 307,200 acres will be worth $1,536,000, available fund for the construction of this road; as by the 5th section f the grant of Congress "a quantity of land, not exceeding 120 sections, and included within a continuous length of twenty miles of said road may be sold; and when the Governor of said State or States (Arkansas or Missouri) shall certify to the Secretary of the Interior that twenty continuous miles of said road is completed, then another like quantity of land hereby granted may be sold: and so from time to time, until the said road is completed."

But it was shown that the complete cost of the road in first rate operating order was only $1,402,850; therefore the available fund, for the completion of this road, derivable from the grant, exceeds the complete cost by $133,150, which will almost defray the expense of bridging both the Arkansas and White rivers.

Having shown the cost of this road, the character of the country, along the route, and the amount and value of the lands granted, which are to be applied in its construction; we will proceed to show its local and national advantages.

Pulaski, Prairie, White, Independence and Jackson counties, it is true, are most directly benefitted by this work; but all the counties in the northern portion of the State bordering on Black and White rivers are, by it, brought n close connection with Little Rock; and passing as it does through the Cotton Region, this road will not only make a demand for those lands, but bring them to a high state of cultivation, so that the transportation of their products to the river will enable the road to pay well even as a neighborhood enterprise. The lime, granite and sand rocks, and the immense quantities of valuable timber will greatly enhance its local benefits. Little Rock, as the seat of Government, center of the State, and surrounded by a rich country, must necessarily be a point of great importance, not only toward which to travel, but also in which to do business. It must inevitably become a commercial as well as a political city.

Jacksonport, situated at the confluence of Black and White rivers, which flow from hills filled with minerals, and along valleys teeming with fertility, must soon command an important trade and travel.

Batesville, Athens, Smithville, Pocahontas and Gainesville, and the other towns of the North, are intimately joined in destiny with the interests of Jacksonport, in this road; and when it is known to be one of the cheapest roads to build, and over some of the best land in the State, and that the grant of Congress, along this particular line, will cancel its cost, the importance of its speedy construction, merely in the light of a local work, becomes peculiarly paramount.

But when viewed as it is a link in the great chain of the Mississippi Valley Railroad, extending from the city of New Orleans to the Falls of St. Anthony, of which the Iron Mountain Railroad and the North Missouri Railroad, which are now being prosecuted with irresistable energy to connect Arkansas and Iowa, for which individual and corporate subscriptions together with the State credit amount to $5,550,000, the city and county of St. Louis having each taken $1,000,000, form also important links, and of which the New Orleans, Opelousas and Great Western Railroad is the southern hook, then this valuable local work assumes a national character. Its pecuniary prospects and social tendencies are enlarged and brightened. Its adaptability to transport the luxuries of the tropical regions toward the north, to re-convey the wholesome products of the temperate climes toward the south, to exchange the substantial resources of different zones, to blend the feelings of sociability and brotherhood of the people of the North and South, to bind the political Union with a force superior to law, to advance trade and travel along channels flowing to meet the wants in harmony with the law of nature—its adaptability for these glorious results, must render it one of the most popular measures of public policy in the State, and ensure the concentration of the mind and money of the people in favor of its speediest practical operation.

Iowa—North Missouri—Mississippi Valley Railroad.

St. Louis, Mo., 24th Aug., 1853.

Hon. C. Bates,

Chairman of the Corresponding Com. for the Albia Convention.

Dear Sir,—Seeing the earnest movements of the people of the Des Moines Valley in favor of the North Missouri R. R., and feeling a lively interest in the cause, I have just forwarded to you, by mail, one hundred and forty-five pamphlets containing information on the subject, viz:

5 copies of our General Railroad Law.
10 do the St. Louis and Iron Mountain R. R. Charter, By-Laws and Officers.
10 do the North Missouri R. R. Charter, By-Laws and Officers.
20 Numbers of the Western Journal and Civilian.
100 Copies of the Official Proceedings of the North Missouri and of the Mississippi Valley Railroad Convention.

Missouri has given substantial evidence of her determination that the North Missouri road shall be extended to the border of your State. The County of St. Louis subscribed to the Iron Mountain and North Missouri R. R.—links in the Mississippi Valley Railroad—$1,000,000—$500,000 to each.

The City of St. Louis has also subscribed $1,000,000 to the same—$500,000 to each. Individual together with various county subscriptions in North Missouri amount to several hundred thousand dollars more. State credit given to the North Missouri Railroad is $2,000,000.

The cost of the road from St. Louis to Iowa is estimated at $4,500,000, unsurveyed. Engineers are surveying the route from both ends—from Iowa, here; as well as from here to Iowa.

The people in Arkansas and Louisiana are co-operating energetically in the *Great Work*. The magnificent enterprise is now rapidly progressing, from the Gulf of Mexico to Iowa; and, moreover, the Legislature of Minnesota, last winter, chartered the Louisiana and Minnesota Railroad Co.

Will the Albia Convention devise a plan to connect the North Missouri and the Minnesota Railroads, on a line nearly longitudinal, and join with the Mississippi Valley Railroad Convention in their memorial to Congress for an equivalent to 10 miles of land along the whole line to aid in building the road from the Falls to the Gulf?

Hoping that by the Albia Convention you may acquire and give a wise direction to an irresistable force in favor of this grand, harmonious, local, State and national enterprise,

I am, very respectfully, yours &c.

HENRY COBB.

Nashville and Northwestern Railroad.

Tennessee has projected a system of Railroads on a sound and liberal principle. She has devised it, not only to meet the wants of her own people, but also, to co-operate with the systems of other States. One branch of this system starts from Nashville towards Missouri. It is intended for the benefit of the people in the north western portion of the State; and it co-operates with the St. Louis and Iron Mountain Railroad in the south-eastern portion of Missouri. State credit has been extended in its favor to the amount of $8,000 per mile, for the purpose of procuring the iron rails, chairs, spikes and equipments, and for putting down the rails; and the execution of the bonds by virtue of the law operates as a lien on the road, and upon all the stock subscribed for in the company.*

The movements of the people of Tennessee in behalf of this enterprise and its prospects are indicated by the following data, with which we were furnished by G. W. Gibbs, Esq., of Tennessee.

Estimated cost of 140 miles of road, at $14,500 per mile - - - - - - - -	$2,030,000
Tennessee River Bridge - - - - -	150,000
	$2,180,000
Means provided:	
Davidson county subscription - - - - -	300,000
City of Nashville - - - - - - -	100,000
Individual subscription in Davidson, Dickson and Humphries (on rival routes and therefor conditional) $130,000, of which can be realized, say	100,000
Individual subscription in Weakley county	63,000
do. do. Obion "	39,000
	$602,500
State Bonds, $8,000 per mile, on 140 miles to the Mobile and Ohio road - - - - -	1,120,000
	$1,722,500
Total cost to Mobile road - - - - -	$2,180,000
Total amount of means provided - - -	1,722,500
Deficit - - - - - - - -	457,500

* See Abstract of the Railroad Law of Tennessee. Vol. 9, page 238. *Western Journal and Civilian.*

Deduct proposed county subscription in Henry	150,000
Deficiency - - - - -	$307,500

The people of Hickman, Ky., propose to connect this road with the Mississippi river at that point, and that the Iron Mountain Railroad be extended to the opposite bank of the Mississippi.

By this co operation of systems, the cities of Nashville, Tenn., and St. Louis, Mo., will be brought within about 360 miles of each other; and counting distance by the time of travelling at the rate of 30 miles an hour, Nashville and St. Louis will be about twelve hours apart.

The trade and travel between Nashville and St. Louis would, of themselves, be strong inducements in favor of an early establishment of this connection; but the trade and travel which would certainly flow between the Southeastern and Northwestern United States, along this route, would rival if not surpass the trade and travel between the East and West.

Belleville and Murphyboro Railroad.

Main, leading, trunk lines of railroads which combine important local advantages with still more important extreme connections, should and must command the chief attention of the community, interested in their local and extreme profits. Investments in such roads are manifestly of the safest kind. The Belleville and Murphyboro railroad is one of this class. Its length is only 90 miles. It passes through a country rich in the products of the soil, and richer in the coal beds beneath. By the Belleville and Illinoistown railroad it connects with the city of St. Louis, and by the Illinois Central Railroad it connects with the city of Cairo. It thus becomes an important link in one of the most direct railroad-routes between St. Louis and the south and southeastern portions of the United States.

We present the official proceedings of the organization of this company, with the conviction that the reputation of the directory for means and energy in the prosecution of public works, together with the intrinsic merits of their cause, will insure a rapid progress of this enterprise.

BELLEVILLE AND MURPHYBORO RAILROAD.

At a meeting of the Directors held at their office, in Belleville, St. Clair Co., Ill., on the 15th of August, 1853, the following members were present: W. W. Roman, J. A. Wilson, W. Roseborough, J. W. Hughes, W. C. Kinney, W. Truesdale, and H. L. Stewart; whereupon the Board organized by appointing W. W. Roman, Chairman, and J. W. Hughes, Secretary.

On motion,

Resolved, That the Board proceed to electing officers.

Whereupon L. P. Sanger, Esq., was duly elected President; Casper Thiell, Secretary; W. W. Roman, Treasurer; W. H. Snyder, Esq., Solicitor.

On motion,

John A. Logan, Esq., was appointed to obtain the right of way for the company.

On motion,

H. L. Stewart, W. Truesdale, and W. C. Kinney, were appointed a Committee to draft a code of By-Laws for the company.

On motion,

H. D. Bacon, H. L. Stewart, John Cavender, S. B. Chandler, J. W. Hughes, and the President, were appointed a committee to open the necessary books for subscriptions to the capital stock of the company, with full power to appoint such agents as they may deem necessary along the line of the road; and to secure an engineer or engineers to make the required preliminary surveys of the line.

The Board adjourned until the third Monday in October, next.

W. W. ROMAN, President.

J. W. Hughes, Secretary.

RAILROAD LITERATURE.

Railroad Record, and Journal of Commerce, Banking, Manufactures and Statistics.—This is the title of a weekly paper recently established in Cincinnati, Ohio, edited by E. D. Mansfield, Esq. Such a work was needed in the Mississippi Valley, to represent the interests of the mighty improvements that are now going on in this region. And we are gratified that it has been undertaken by the able and accomplished gentleman whose name is announced as Editor. The "*Railroad Record*" is printed on fine paper, in quarto form, at $3.00 per annum, payable in advance. We cordially commend it to the patronage of the West.

Hannibal and St. Joseph Railroad.

The hemp, tobacco and grain regions and the rich coal fields of North Missouri are commanding renewed attention. The products of the soil of this portion of the State have been prominent sources of its wealth, but the mineral resources underneath the luxuriant vegetation on the surface of the country remain undeveloped, partly from the want of the knowledge of their quantity and quality, but mainly from the want of an easy access to market. The survey of the Hannibal and St. Joseph Railroad has increased the desired knowledge; and the road, when completed, will supply the main wants. We hope soon to disclose our views of the policy to ensure the best credit and the most irresistable progress of this work. In the mean time, we quote the following letter, which must arouse lively interest in its favor:

HANNIBAL & ST. JOSEPH RAILROAD,
Engineer's Office, June 1st, 1853.

Col. R. M. STEWART,
President of the H. and St. Joseph R.R. Co.

SIR,—Since the receipt of your last letter, I have been engaged in making a careful examination, with a view to ascertain the present value of the improved and unimproved ands on the route of your road. From this it appears, that no improved lands on the route can be purchased at a less average price than $12 per acre, and that unimproved entered lands are valued at $4 per acre.

In forming an estimate of the prospective value of these unimproved lands belonging to the Company, I have employed a criterion which I think is best calculated to lead to a correct result. This has been obtained by ascertaining the present value of lands of similar quality situated within similar distances of such facilities of transportation as are afforded by the Missouri and Mississippi Rivers, facilities which, considering the comparative difficulty of approaching these rivers through the bottom lands, and the uncertainty of the navigation, are evidently far inferior to those furnished by a railroad, and certainly less calculated to enhance the value of lands. Agreeably to this criterion, not so high a one as for many reasons you would be justified in assuming, the average value of the lands belonging to the Company will amount to ten dollars per acre, classified as follows:

1. *First Class*—Lands of special value, as coal fields, quarries, minerals, &c. or from proximity to towns or villages, 100,000 acres—minimum valuation at $20, $2,000,000
2. *Second Class*—Superior agricultural qualities and location, 150,000 acres, minimum valuation at $15, 2,250,000
3. *Third Class*—Good agricultural qualities, 250,000 acres, minimum valuation at $10, 2,500,000

4. *Fourth Class*—Low agricultural qualities, 200,000 acres, minimum valuation at $5	1,000,000
5. *Fifth Class*—Inferior lands, 100,000 acres, minimum valuation at $2,50	250,000

Forming an aggregate valuation for 806,000 acres, of $8,000,000

It should be borne in mind, with reference to this estimate of the comparative value of lands within fifteen miles of the above-mentioned rivers, and within the same distance of your road, that the latter are much more desirable on the score of health, and on account of the greater facility of communication with the road, which they will possess. This arises from the fact, that the general location of the depots on the road will be on the ridges between the streams which the road crosses. These ridges, although not high, are sufficiently elevated to afford natural roads of the most perfect character, passable with heavy loads at all seasons for a great distance north and south. Besides rendering the road acceptable at all times, the direction of the road east and west has the further advantage of dividing the lands into the proper proportion of timber and prairie. It must be seen at a glance the important bearing of these facts alone upon the value of your lands, but when you take into view the great intrinsic value of the coal lands, and their effect in enhancing the value of all the lands throughout the route, after the road is in operation, the criterion that I have adopted must be acknowledged to be below what might have been justly assumed. The lands along the Central Railroad in Illinois, although valued much higher than I have ventured to place yours, are inferior in the advantages of position and in susceptibility of improvement. In my Report, on the location of your road, I have alluded in general terms to the unsurpassed fertility of the soil, which, although of unvaried richness, is diversified in its adaptation to the different products of the climate. For example: the eastern division of the road passes through a hemp district of country; and upon approaching Macon county, the road enters a tobacco region, unequalled probably in the world, certainly not in the United States. Even in the Elk Knobs, where I expected to find a comparatively sterile portion of the route, I found the most beautiful and extensive valleys in a high state of cultivation. Beyond the Knobs, west of Grand River, lies "New Kentucky," as it is called, on account of its close resemblance to one of the most fertile and desirable portions of Kentucky. This is a limestone region, abounding in crystal springs, and streams of water, flowing over rocky bottoms. The western portion of the road is located through the "Platte Purchase;"—the extraordinary richness and fertility of this celebrated purchase is too well known to require description.

The specimens of bituminous coal, from the north Missouri coal fields, which I presented to the Board at their last meeting, are superior to any I ever saw south of the Missouri river, and are fully equal to the best specimens from the Pittsburgh mines. In connection with this coal, I have good reason to believe that iron ore will be found, and of a quality well adapted to smelting purposes.

Respectfully, your obedient servant,

JAMES M. BUCKLIN,
Chief Engineer, Hannibal and St. Joseph Railroad.

LITERARY DEPARTMENT.

THE PLAINS,

By FRANCOIS DES MONTAIGNES, of St. Louis.

CHAPTER TENTH.

Which describes *How* the Packsaddle Expedition were *astonished!*

"Des heros de romans fuyez les petitesses:
Toutefois aux grands coeurs donnez quelques faiblesses."
L'ART POETIQUE DE BOILEAU.

Francois *himself* had seen a wolf, but as no one else had encountered any other game in these parts, excepting a few snakes, and as the buffalo seemed to have abandoned the trail altogether at this season, it now became a matter of necessity for the company to do the same thing, and strike off at the shortest tangent which led to their grazing grounds.

We have remarked that our flour was *out;* every ounce had been carefully shaken from the leathern sacks which had contained it; these, like rifled pockets, had been turned inside out, and very much like "lean and slippered pantaloons," presented the appearance of mere ghosts of the plump forms they once had sported. One lone sack, belonging to the marquee, heretofore unbroken, in order to be served up with future buffalo meat, and cautiously marked: "not to be opened," was the sole survivor of all the fat kind served out to the messes on the Blue.

Even this last Mohican was now called into requisition, and though the democracy at Wolf creek revelled in coffee and middling, there was at least *one* mess in camp which rioted in the superior enjoyment of ash-cakes and biscuits.

Crossing the Santa Fe trail, therefore, at a right angle, on or about the 17th July, we struck off in a direction north of west, and continuing on the south side of Pawnee Fork, trotted gaily over the buffalo grass, with expanded eye on the sharp look out for the welcome sight of *Meat.*

Fortunately we had not far to go; we had not left camp Vide Poche more than three or four miles in the rear, and the tops of its scanty trees were yet in sight, when a single black speck, not larger than a fly, upon the extensive table before us, denoted that the feast was already preparing, and caused aloud and simultaneous shout of *Buffalo!*

There he was, sure enough; one solitary black speck upon the wide landscape before us. He was a buffalo though, and already had our quick imaginations pictured forth his majestic form, the shaggy, warlike front, the formidable horns, the rolling eye; all were there, in that single black speck, which looked like a pin's head on that great green cushion. We almost fancied him pawing up the ground, and casting the soil into the air, and one of the greenhorns was confident, he heard the speck *bellow.*

The packsaddle *people* fairly shook with doubt, as the speck remained motionless, and apparently lifeless, and one sap-headed philosopher even carried the joke so far as to declare it was *not* a buffalo but a *Bois-de-vache.*

As we moved onward, the object gradually increased in size, and when the speck gradually acquired distinctness and form, and finally re-

solved itself into a large and well defined buffalo, standing out in bold relief, like the heraldic bearing of some great shield, (that of Front du Boeuf's for instance,) the enthusiasm of the explorers knew no bounds, and so general became the desire to have a buffalo chase, that the same sap-headed philosopher who had insisted so strongly but a few minutes before, that the buffalo was a *Bois-de-vache*, now added his shout to the balance, and wished for permission to charge upon the enemy.

Yes, there he was; the outermost picket of the countless legions whose territory we were invading; there he stood leisurely cropping the short grass, and as careless of danger as though he were in his own meadow, and no packsaddle expedition within a thousand miles to disturb him.

A couple more of the same sort now showed themselves in the distance, and denoted our rapid approach to the main body.

How we green-horns shook!

Reader, you have heard of the buck ague, perhaps you have experienced it; if you have done neither, read Kendall's description of it;* it is mysterious, but it is *nothing* to the buffalo chills. Our whole system became complicated, and mixed masses of active and powerful machinery, all out of order and indescribable; wheels, pulleys and cranks; leather belts, boilers, nerves and loose screws: our wool hats kept our hair down, but our dander was up; our eyes were wide awake, and so were our appetites; all were strangely effected. The buffalo loomed up in the distance, and seemed in the dancing, flaring rays of the midday sun to have attained the proportions of a mastodon or a behemoth. The packsaddle expedition had at least reached plenty, the flour was *out*, and so was the middling, (*nearly*,) and the buffalo were *in* for it.

All were charmed, enchanted, *astonished!*

As for Francois, poor fellow, the nervous grasp of his rifle, the staring eye, and the spasmodic twitching of his jaws, betokened the hand of disease, and that too of a kind far more fearful than the Bear vertigo which seized him at Camp Ursa: supported by several of his friends from falling from his horse, until the first shock was over, he gradually recovered.

Not so with the sun-burnt, hardy veterans of the mountain and prairie; men who had trapped beaver, and fought Blackfeet, who had wintered in the snows, and chased the elk over the icy crags. Spurring up their jaded animals to the front, they appealed to the captain more by their looks than by words for permission to go on a hunt. But

* And what, the reader will probably ask, was the reason of my want of success? In all frankness, and with a desire to answer his question fairly, and to the best of my knowledge, belief and ability, I will here state that there is a very common disease prevalent among young and inexperienced hunters in Texas, which is known as the "*Buck-ague.*" It manifests itself whenever the subject is suddenly brought into close proximity with game of the larger class, and more difficult to kill, and its effects are to give a hurriedness of action, a tremulousness of the nerves, and an unwonted excitableness to the feelings generally. It strikes me forcibly, and I have little doubt, the reader's impressions are closely akin to mine, that I underwent a severe attack of the "buck-ague," while on the little hunting excursion of which I have just given a description—in plain English, hat I was too nervous even to hit a barn-door at twenty steps.—Kendall's Santa Fe Expedition, vol. 1.

the country was dangerous, and bands of prowling Indians may have been lurking in the vicinity, and their appeal was in vain. However, as it was considered a favorable opportunity to test the mettle of some of the fine race-horses mentioned in a previous chapter, which were led along in the *caballada* by a negro especially detailed for that service, the captain, after a consultation with the principal hunters in the troupe, concluded to show the greenhorn explorers a few extra flourishes in the way of racing buffalo in Indian fashion on the American prairies; or in other words give them the benefit of witnessing a bull-fight, *a l'Espagnole*, with the boundless prairie as an arena, and himself and the best buffalo hunter in the west, as the gladiators.

Mounting two of the finest horses, therefore, and armed cap-a-pie with guns and pistols, Archambeaux, the famous buffalo runner, and Captain Fremont of the packsaddle expedition, rode forth to attack the unsuspecting bull who continued to feed away, unconscious of all these preparations,and profoundly enjoying the sweetness of the grass.

The greenhorn expedition lifted its eyes afar off, and gazed with wonder.

Advancing undiscovered within a quarter of a mile of the lordly animal, the two *toreadores* gave the spur to their fleet steeds, and dashed like lightning alongside of the now retreating buffalo. Poor fellow! He stood but a poor chance for life, with the best of hunters on one side, discharging volley after volley into his shaggy hide, and the captain with his pistols on the other peppering away as if with the intention to load him down with balls. Flight was in vain; the mettlesome chargers were up with him in an instant, and resistance was out of the question. The sharp sting of a pistol ball no sooner caused him to wheel and present his formidable horns than another shot from the opposite horseman made him turn again and resume his frantic flight. Whilst in the distance the loud hurrahs of the enchanted packsaddle expedition rang through the clear atmosphere like the thundering encores of the olden times which shook the amphitheatres to their base, and marked the downfall of the imperial lion or the butchered gladiator.

The sturdy animal was hard to kill, and received more than twenty shots, before he finally *caved in;* and whilst his huge form lay writhing in the throes of death, the two bold hunters galloped over the prairie amidst the loud plaudits of the delighted spectators.

No limbs were lost, nor any serious damage done, other than the losing of a valuable pistol from the captain's holster, during the heats of the conflict: fit offering at the grave of the slaughtered buffalo.

Additional specks appeared in the distance, but as one combat of this sort had afforded sufficient glory for the present, the exploring expedition continued on the even tenor of its way, without molesting them, but occasionally smacking its lips, as the number of specks continued to increase.

Finding plenty of water deposited in the flats along the route, by the recent rains, we halted at one of the numerous little ponds hus made, and enjoyed a luxurious meal upon the last surviving

fragment of our much injured middling; "t'was the last remaining button on Gabriel's coat," without a doubt, and that none should be wasted, we ate it without cooking, for fear of its resolving itself into a grease-spot under the operation; and without the usual accompaniments of bread and coffee, but with a stimulating draught from the little pond near by, we made a final finish of every thing in our possession, which could possibly lay claim to the name of provisions.

Here again we cannot but pause and reflect upon those profound powers of calculation which could have fortold to a day, to a fraction of a day, the complete annihilation of our rations simultaneously with the appearance of the abundance which herded around us.

Hitching up, about one o'clock, we left our comfortable nooning place among the ponds, and again jogged onwards, at a pace considerably accelerated by our bright anticipations of plenty, and without paying the least attention to the numerous prairie dogs, who yelped around, continued straight ahead with ears erect, on the lookout for the main body of buffalo.

Hunters were dispatched in various directions to secure food by nightfall, and long ere we reached a suitable halting place, near the creek, several mules laden with fresh and fat meat, joined the caballada, and trudged along with their precious burdens, the observed of all, and the foci of a hundred eyes; a spectacle to excite an epicure, and sufficient to render a famished explorer perfectly crazy.

The reader may possibly imagine from these minute and frequent allusions to the state of the larder, that the packsaddle expedition may have been rather disposed to epicurianism, but could he have enjoyed an abstemious promenade from Walnut creek to Wolf creek, and then a hungry ride from Wolf creek to our present desirable neighborhood, as early a breakfast as possible, would not have been deemed objectionable, even without the accompaniments of bread and butter. The spot selected for this night's camp, occupied the site of some former encampment on a large scale, where an extensive band of Indians, (Caws or Pawnees probably,) had been engaged in curing and preparing their winter meat. The ground around for several acres being thickly strewn with poles, upon which they had dried their food. These afforded us a magnificent wood yard to draw upon, and within a few minutes after halting, the fires were kindled in every direction, whilst one sly old *cuisinier* had even got so far the start, as to have a considerable chunk of the meat already simmering over his blazing fire.

The hunters had great success, and the officers attached to the expedition, encouraged by their accounts, and by the proximity of several large herds, took horse and gallopped forth to the charge.

They, too, had admirable success, and the continual arrival of laden mules, until a late hour, proved conclusively that the expedition had finally arrived in that land of plenty, which had all along been described as existing somewhere. but supposed to have been removed into some very fabulous portion of the prairie.

The contrast presented by this scene of plenty to the meager and starved noonhalt at the ponds, was sufficiently striking to be appreciated, and long pent up feelings nearly akin to those of mirth, seemed suddenly to have brooken loose, and evinced their intensity by the general and inordinate cooking and consumption which prevailed.

It is astonishing, and it astonished the greenhorns, what quantities of this peculiar kind of meat can be devoured without inconvenience. No one had been really starving, all, on the contrary, looked plump enough, and though the fare had been somewhat slim, the voyageurs were not, and no bones had yet become prominent with hunger; yet all hands set to, and joined in a furious onslaught upon the viands, as though they had been feeding on moccasins and mule meat for weeks, and were anxious to make up for lost time, by devouring at one meal, full rations for the entire time they had fasted. Huge masses of solid and oily meat, such as a generous host would place for his household, were spitted and placed to the fires, whilst the owner near by awaited impatiently the browning of the side next the blaze, when with frequent use of his sharp butcher knife, the whole roast would be consumed, long before his inordinate apnetite would be sufficiently satisfied. After this, one would expect to hear of a finish or a case of apoplexy. Not at all. Once commenced, our friend knows no such word as finish, and the small roast we have seen him eat, forms but a mere grease-spot in his appetite as well as in his future intentions.

Everything is on the grand scale in these paradisical regions: The prairies are boundless, the sky cloudless, the game countless, and the appetite of the traveller corresponds accordingly.

We now see our indefatigable operator selecting two or three huge ribs, the least as large as a sabre, and after planting them in a favorable position for browning, cast himself at leisure upon the grass near by, to watch the gradual preparation of the dish which constitutes his desert, the crowning climax as it were to all his previous exploits in gastronomy. After all this, if not too lazy or fatigued to go after his blanket, he muffles himself in its folds, and dreams, if he dreams at all, of a life in the woods.

Such is life among the buffalo!

Not knowing how long this happy state of things was going to last, and ignorant of the exact extent of these unsurpassed hunting grounds, we prepared a portion of our meat, by splitting it into thin pieces, and partially drying it over the fire or in the rays of

the sun, and afterwards placing it away carefully in the sacks which formerly held the flour.

There was not much time allowed for these preparations, as our chief's personal kitchen was well supervised, and, of course, never in need, and many little circumstances consequently failed to be noticed, which if properly attended to would have redounded much to the credit of the leader, as well as to the greater comfort of the *people*.

The order was given to "catch up and saddle."

Notwithstanding all this hurry, it took more than a week to ride through this game region, and the prairies on all sides were black and brown with buffalo, running, racing, fighting and feeding, not unlike cattle on some immense stockfarm.

Now and then a heavy cloud of dust, and the quick movement of the mass at the extreme edge of the horizon, denotes the presence of Indians on the chase; the adjacent herds communicate the panic until the whole mass is in rapid motion: whilst squadron after squadron fill up the rear, and present the same dense and countless multitude.

It was well to be on the lookout, as we were within the regular range of the Pawnees and Chiennes; the war parties of these nations are continually on the hunt, and it would not be safe for a white man to be encountered by them, especially in this their favorite hunting ground.

The red man, in fact, cannot but look upon the white hunter as an intruder, who enters his pastures unasked, and slaughters his stock wantonly and wastefully, and when he slays his foe, the Indian doubtlessly imagines he is meting out justice to the thief who has entered his domain, and destroyed his provisions and his worldly wealth.

Where such a number of animals is slaughtered, it cannot be expected that all the meat is preserved, and hunters among plenty are never noted for being particular; the tongue, consequently, bosse and hump-ribs, with a little tallow, constitute about the average demand of the pale face, who fastens these to his saddle, and scours away in hot pursuit of another victim, leaving the slaughtered beef to be devoured by the quick-scented wolf who springs up from the ground, and the keen-eyed buzzard who hangs like a cloud far above in the pure and clear atmosphere.

ANNA C. GOURDIN, wife of W. Allston Gourdin, daughter of J. B. White, of Charleston, S. C., died on the 8th of July, 1853. Young, beautiful, accomplished, pious, her transition from this to the higher life was radiant with the halo of religion. Her genial spirit on earth, betokened her guardian influence on high.

The following ideal lines, inscribed to her memory, form a beautiful tribute to the departed, and give a happy direction to human sorrow.

From the Charleston (S. C.) Evening News.

In Memoriam.

BY WM. GARDNER BLACKWOOD.

On the door of the legended tomb,
*——————was written—*ANNA.

As wanly gleams the spectral lamp
In some dim vault's sepulchral gloom,
Where marble statues, cold and damp,
Mock the lone tenant of the tomb,—
So palely glimmers Fancy's light
Thro' darker voids of sorrow's night,
And marble cold the lyre whose breath
Went heav'nward with thy sainted Death!

Nun-like above thy flow'rless bier,
Its spirit woos the cypress shade,—
By plaining boughs, and low winds near,
Th' music of its requiem made:
Bitter the chilling blight it knows,
As griefs fall fast like wintry snows,
And drear as ocean's loneliest shore
The scenes thy smile shall glad no more.

Canst know within thy starry realm
The echoing woes that anguish this?—
May burning sighs, and tears that whelm,
Becloud thy shadowy vales of bliss?
Ah, no!—by timbrel-sounding streams
Thy soul angelic rapture dreams,
And bright-wing'd bands, that round thee shine,
Bring visions of a life divine.

No lovelier shape in Paradise,
A joy embodied, spreads its wing,
Or sweeter name the minstrelsies
Of golden-luted angels sing:
To Israfeli's trembling lyre
Thy praise will lend enchanted fire;
And, soaring to immortal birth,
Nor star ere left a darker earth.

But oft when stars their kindred meet,
The lov'd who mourn thy early death,
In vision'd slumbers, silv'ry sweet
With dreams that breathe the rose's breath.—
Will hear thy spirit's radiant wing
In ev'ry air's soft whispering,
And smiles, the light of eyes unseen,
Will tell what angel watch has been.

So loved!—yet lost! the flow'r, the beam,
The seraph air, each holy thing,
All human hearts most beauteous deem—
Of thee a memory sweet will bring:
And with thy image, truth and love,
From founts like rippling suns above,
Will, clust'ring round thy tear-moist sod,
Teach Faith in the eternal God.

Missouri Institute for the Education of the Blind.

We are pleased to present the following circular to our readers, and hope soon to offer further interesting information about this philanthropic and flourishing institution:

St. Louis, July 13th, 1853.

Dear Sir:

By direction of the Trustees of the *Missouri Institute for the Education of the Blind*, I take the liberty of calling your attention to the public charity under their care, and of asking your co-operation in making it more generally known. It is permanently and well established, being supported in part by annual appropriations from the State, and partly by private subscription, and the Trustees are making arrangements for the erection of a large and commodious building, for which purpose an appropriation of $20,000 was made by the last General Assembly. They now occupy a convenient house at the corner of Howard street and Broadway, which is amply sufficient for the present demands, and are prepared to receive ten or twelve pupils in addition to those already under their care.

The advantages offered by this Institution are as great as at any other of the same sort, in the United States. The Principal and Matron, Mr. and Mrs. E. W. Wheelan, are both thoroughly experienced and faithful in discharge of their duties, and parents may rest assured that no pains will be spared in the proper care and education of the children placed under their direction.

The branches taught include all which it is practicable for the blind to learn, consisting chiefly of Reading, (by means of raised letters,) Writing, Arithmetic, Vocal and Instrumental Music, Plain and Ornamental Needle-Work, Bead and Basket Work, &c. In these different branches, the children make satisfactory progress, which would be almost incredible to those who have not witnessed it. A work-shop has also been recently added, and those of suitable age have opportunity to learn trades, by which they can earn an independent support.

Pupils are received at any age over six, and are provided with clothing, board and education, gratuitously, when desired. But it is expected of parents and guardians to provide clothing, and to pay their board, either in full or in part, when able to do so. Adult pupils are also received, and will be instructed, both in the school and the workshop, in whatever branches they are competent to learn.

There is reason to believe that although this Institution has been in full operation for more than two years, its existence is still unknown to a great many of those for whose benefit it is intended. The Trustees, therefore, take this means of asking your assistance in discharge of the duties devolved upon them. They are desirous of extending the advantages of the Institution to all

those to whom they properly belong. You will greatly aid them and receive their cordial thanks, by contributing to enlarge their sphere of usefulness. If you know of any persons, totally or partially blind, will you be so kind as extend to them the information herein contained, and encourage them to become inmates of this Institution?

Further information upon the subject may be obtained by addressing the Principal, Mr. E. W. Wheelan, or the President of of the Board of Trustees.

I remain, very respectfully,

(By order of the Board,) WM. G. ELIOT, Jun., *President.*

Of all the Fine Arts the Art of Poetry is the most refined. It represents, not only outward action, but also, inward motive. It deals with the materials of the invisible spirit as well as with those of sensible matter, and its greatest triumph is witnessed in the Province of Beautiful Souls. It polishes the hard thoughts, and etherealizes the turbid feelings of human woe. It paints the real, and points out the ideal. It subdues the discordant notes of passion, and establishes the harmonious tone of genius. It transforms misery into happiness, and sublimates the earthly into the divine. The following stanzas breath the true spirit. They touch and tend to civilize humanity, and elevate it to the Deity. We trust that a volume of Poetry may soon be presented to the world by the fair authoress, and that those who have a soul for the beautiful, will, with it, become wiser, better and happier.

STANZAS.

By Maria Gertrude Buchanan,

of SAVANNAH, GA.

How all unknown to us the thoughts which glide
O'er the dim mirror of another's soul;
The thronging memories—the rushing tide
Of strong emotions mocking at control;
The hopes, the feelings, and the secret woe,
Which through the heart's deep channels ever flow!

The smile is oft the glitt'ring rainbow made
By the dim spray above the fount of tears;
The heart is wrapt, alas! in Sorrow's shade,
And wild Remorse, with all his scorpion fears,
Stings it to madness—yet the eye *can* wear
The veil of Joy's glad sunshine brightly fair.

The rosy cheek with mantling blush may glow,
Calm as an infant's dream the brow may be,
Yet this sweet blush, this lovely calm below,
May lurk the bitterness of misery:
The eye may flash with Love's celestial light,
Yet Hate lie crouching 'mid its lustre bright.

Oh! we know little of each other's hearts,
Their inward fruits of Passion and of Pride;
On Life's revolving stage all play their parts,
And 'neath the *act* too oft the *motive* hide.
Yet tremble, mortal! thou to *Him* art known
Who sits Omniscient on the Eternal Throne!

St. Louis, August 31st, 1853.

THE

WESTERN JOURNAL

and Civilian.

VOL. X. September, 1853. No. VI.

ARTICLE I.

Railroad Iron: Its Manufacture in the U. S.

There is no object for which we have labored more earnestly than for the production of iron to an extent which would give our own producers the control of the iron trade of the United States. To this end we have frequently, through the pages of the Western Journal, appealed to the sound judgement and patriotism of the statesman, to the individual interest of the agriculturist, and to the sagacity of the enterprising capitalist, but all in vain: for it would seem that a majority of the people of this country have resolved to rely upon Great Britain for a supply of this essential element of civilization, regardless of all consequences.

The decline in the production of iron in the United States, and the augmented demand for its use, especially in the construction of railroads, have occasioned an advance in the price of rails, which threatens serious embarrassment to the progress of the many railroad enterprises now being prosecuted in every part of the country. And we are persuaded, that, unless some means can be devised to reduce the cost of iron, many important railroad projects, about to be commenced, and even some already in progress of construction, will be suspended indefinitely from this cause alone. Indeed we should regard it as prudent, on the part of railroad companies, who have not already placed their work under contract, to delay their operations, until there is a reasonable prospect of obtaining rails upon better terms than the present state of the iron trade authorises them to expect. The cost of rails, at the present time, for one mile of road may be set down at about three thousand five hundred dollars more than in the beginning of the year 1852, when it is believed that the trade, at least in England, was in a healthy condition.

The arguments for the immediate commencement of a railroad must be strong indeed to induce a company to commence its construction at

so great a sacrifice, especially when there is reason to expect that the price of rails will continue to advance, until checked by a general failure in the construction of railroads in the United States. And such a failure may be regarded as a certain consequence of the present state of things, unless averted by an increased production of iron in this country. We have carefully reviewed our own experience and observations of many years, and, having considered the financial and commercial aspects of the present time in all their bearings, are fully persuaded that the only hope of carrying out the many important railroad enterprises which have been projected in the Western and Southern States, is to be found in the production of rails from the ores of our own mines.

Let us not be deceived by the production of gold in California and Australia. That is absorbed by the insatiable demands of commerce as fast as it is produced, leaving objects of public improvement upon the same ground which they have always occupied: to struggle with commerce for the means of their construction.

It is to be regretted that the history of the iron trade in the United States affords but little encouragement to capitalists to embark their means in a branch of industry so essential to our national wealth and independence. In Great Britain, mining has been reduced to a system; the operatives have been trained to the highest degree of skill attainable in their respective departments; there, iron is one of the chief sources of national wealth, and has for centuries received the fostering care and protection of the Government; and, controlling the iron trade at home and abroad, the producers, acting in concert, can raise or depress the market-prices at pleasure. Hence it is obvious, that a resort to extraordinary means is necessary to enable the people of this country to compete successfully with those of Great Britain, in the production of iron.

We are not authorized to expect any additional encouragement or protection from our own government. We must look to the enterprise of individuals and corporations—stimulated by just conceptions of the present crisis in the improvements of the country—for the encouragement and support necessary to place the producers of American iron upon ground that will enable them to stand against foreign competition. Can this be done without a sacrifice of money, on the part of those more immediately interested, in attaining this great national object? We answer unhesitatingly that this object can be attained not only without a sacrifice, but with profit to the producers and users of iron. We believe that no one acquainted with the production of iron will deny that the manufacture of rails, at well selected locations in this

country, would be profitable at the prices which English rails now cost when delivered here. Then what should prevent capitalists from investing their means in furnaces and mills, provided they can make contracts, in advance, for the sale of all rails they can produce, within from three to five years, after their commencement? But it would, doubtless, be to the interest of railway companies to contract for American rails even at an advance on the present cost of the English article. For it would be folly to suppose that prices will not continue to advance in England, until checked by the suspension of our railroad improvements, or by competition from the production of rails in this country. Nor would the removal of the duties on rails, by Congress, prevent the general result in the slightest degree. For then as now the price in England would depend not so much upon the cost of production as upon the demand in the United States, and upon our ability to purchase. We remember well, that in the early history of railways, perhaps about the year 1831, Congress passed a law authorizing the remission of duties on railroad iron, after it was laid down on the track, and very soon after the passage of that law, the article rose in England to an amount about equivalent to the duties remitted; and thus the benefits intended by Congress for the railroad companies of the United States, inured immediately to the iron masters of Great Britain. And so, doubtless, it would be again were Congress to pass a similar law. Besides, it is generally conceded that American rails are much stronger, and ware less by use than the English, and that, when worn out, they are worth more as old iron. There is unquestionably a difference in the qualities of English rails. Some may be equal to good American; and even some rails manufactured in this country may be of indifferent quality; but judging from all we have seen published on this subject, we conclude that it is safe to assume that on an average American rails may be set down as worth ten per cent. more than English. Then, upon this ground alone—assuming that the price of English rails will not advance—American railroad companies may well afford to contract with American manufacturers for rails at ten per cent. above the cost of English rails delivered in this country. And whether the price should subsequently rise or fall, surely the ten per cent. added to the duties and other charges would be a sufficient protection to the American producer.

But if capitalist cannot be found who are willing to enter upon the manufacture of rails upon such grounds as we have suggested, then let the railroad companies who have undertaken the construction of extensive lines, undertake the manufacture of their own rails. Under ordinary circumstances, we regard it as the safest policy for railroad

companies to confine their operations to the construction of their road, repairing machinery, and the transportation of persons and property. But in view of the aspects now presented by the iron trade, we think they would act wisely to make their own rails, especially where the raw material is so abundant and convenient as in the State of Missouri. Here, the arguments are strong in favor of constructing our entire system of roads with iron produced from our own mines. It is conceded on all hands that the paying capacity of our roads depends chiefly upon the future development of the agricultural and mineral resources of the State; and no measure, not even the construction of the roads, would do more to hasten the development of these resources, than the production of iron to an extent sufficient for the construction of our roads in the short period of from four to five years. Our own trunk lines will require more than 100,000 tons of rails, which, at present prices, may be set down $8,000,000. But this is only the commencement of our system. All these lines will doubtless be continued far beyond the limits of the State, and by the time the system is carried out with its details of branches, double tracks, &c., it will require little less than 1,000,000 tons of rails, worth more than $80,000,000, at present prices. We leave the reader to form his own conclusions respecting the effects which would be produced from the production of so large a puantity of iron, for only one purpose, in a period of ten years. The highest estimates of the most sanguine will scarcely be equal to the results.

Whether our system of railroads can be carried out in as short a time as its friends have generally expected, will depend upon events yet to be developed. The time may be greatly prolonged. But be this as it may, there can be no doubt in regard to its final consummation. And assuming this as a fact not to be doubted, we are fully persuaded that Missouri now offers to the iron master the best field of operation that can be found upon the continent. The range of iron beds in the Maramec Valley are all within a convenient distance of the southwestern branch of the Pacific railroad; several valuable beds of ore are known to exist near the bank of the Mississippi river convenient to an extensive deposit of coal, and the Iron Mountain wil soon be accessable by railroad from St. Louis. The ore, or the metal produced at all these deposites, can be concentrated at St. Louis during all seasons of the year, at little cost. Here, they will meet the cannel coal of the Missouri and Osage rivers, and the bituminous coals from the North Missouri and Illinois coal fields; and being wrought into forms, suitable to the wants of the consumers, may be distributed with facility throughout the entire area of the Mississippi valley, from the Alleghanies to the Rocky Mountains, and from the

great lakes to the Gulf of Mexico. Could the facilities offered by Missouri for producing and distributing iron be made known to, and fully appreciated by the enteprising capitalists of the Eastern States, but a few years would elapse before Missouri would be seen taking the lead of all the other States in the production of iron, and more especially in the manufacture of rails and railroad machinery.

When we contemplate these facts, and advert to movements in the iron trade which have taken place in other parts of the Union, we are strongly impressed with the belief that the people of Missouri, in neglecting to make known the extent of their mineral resources, and in failing to work their mines, have not been true to themselves. Already the iron beds of the uninhabited, hyperborean region bordering on Lake Superior—but recently made known to civilized men—is attracting more attention than those of Missouri. The following paragraphs show that extensive preparations are being made to convert the ores of Lake Superior into useful commodities. The *Detroit Advertiser* says:

"We understand the negotiations are pending with responsible parties, which if consummated, as there is every prospect of being at present, will secure to this city the permanent establishment of iron works for the manufacture of Lake Superior ore into boiler iron, nails, bars, sheet, band and strap iron, and into railroad iron and nails. The design is to erect works which will require an investment of $250,000."

The New York *Mercantile Journal*, of August 27th, 1853, contains the following paragraph:

"A company has just been formed in Cleveland, Ohio, composed of one or two practical iron men with several retired capitalists, who have subscribed $100,000 stock, bought eight acres of land between Wasson's car manufactory and the Lake, commenced improvements, and in a few weeks will have their hammers pounding and bellows blowing. It is but the beginning of the end, the signal of other works soon to follow. All that Cleveland wants to complete her resources of greatness is likely now to be speedily supplied. The actual cost of dumping first quality of coal here is $1,50 and $1,70 per ton. *When the Saut Canal is done, ore and blooms from Lake Superior can be delivered here comparatively cheap.*"

Here we see extensive works about to be established upon the expectation of obtaining ore and blooms to be transported, first some distance by land, and then, about fifteen hundred miles by lake navigation, which is closed by ice about six months of every year.

The following paragraphs, from the *Albany Register*, show how far the young State of Wisconsin has already outstriped Missouri, in bringing her mineral resources in aid of railroad improvements:

Iron Works in Wisconsin.—A company of capitalists at Milwaukee have organized under the very liberal charter of the "Hartford Iron Company," with a capital of $500,000, and have commenced the erection of iron works and rolling mills at Iron Ridge, in Dodge county, about forty-five miles from Milwaukee, capable of turning out over 15,000 tons of rails annually. They own at that point several thousand acres of the choicest timber and agricultural lands in the State, the most extensive beds of hematite ore in the country, and abundance of limestone, all contiguous. They likewise own the right for the State to use Rinton's patent, for manufacturing wrought iron and blooms direct from the ore, and their experiments prove that the iron made from their ore by this process possesses a remarkable degree of tenacity and ductility."

"Already have they contracted with the Milwaukee and la Crosse Railroad, the most important line in the State, which will pass within a mile of their works, to deliver them twenty thousand tons of rails, within two years from this date, at eighty dollars per ton, which is five dollars less than they can contract for in New York, adding transportation. The rails can be made and delivered at the depot at a cost of from $35 to $40 per ton, the latter being the highest estimate of competent men now engaged in the business before whom all the facts have been laid. This will leave the company the snug little profit of $800,000 on their first contract."

If these facts can be relied upon, they afford strong encouragement to the railroad companies of Missouri to undertake the manufacture of their own rails, provided others cannot be induced to undertake it for them at reasonable prices.

In connection with this subject it may be well to observe that it would be unsafe for individuals or companies to erect machinery for manufacturing railroad iron in Missouri without connecting it in some way with the production of pig metal or blooms from the ore. For without such connection, the owners of the mills would be at the mercy of the smelters, and ruined, perhaps, while the price of railroad iron would remain without any material reduction. The building of furnaces, and extracting the metal from the ore, should be regarded as the first steps in the movement, and if we begin right, there can scarcely be a doubt of the most satisfactory results.

At no time, since Missouri has been settled, has the prospect for developing her mineral wealth been so favorable as now, and we sincerely trust that her citizens will not allow the season to pass without improvement.

Habits of Missouri River—Harbor of St. Joseph.

City of Saint Louis, }
August 30, 1853. }

To the Hon. The City Council, of the City of St. Joseph:—

In compliance with your request, I have visited the city of St. Joseph, and examined the Missouri River, in order to suggest a plan for checking its encroachments upon your city.

By another engagement, on the Air Line Railroad, I was brought upon the Missouri River at the city of Council Bluffs, about three hundred miles above your place, and I have, therefore, had an opportunity not only of exploring your immediate neighborhood, but I have had a better chance of observing its general character, for about one thousand miles. The river flows in a *general* direction south, but its meanders are east and west, between two ranges of high "bluffs," that extend like parallel walls, separated from four to eight miles from each other; confining the meanders of the river within these limits, and prescribing the east and west movements of its waters within these natural barriers. Between these ranges of hills, that rise from two to three hundred feet above the water, there is level low "bottom," sometimes partially overflowed, which is composed of rich light alluvial earth, evidently the deposits of the river, which has at some former period passed over the ground. The river flows through this broad plane, by east and west curvings, the lines of which are constantly shifting down the general inclination, southward. The east and west lines of the river, and the salient points, move south, each giving place to one that follows, so that in time, the river furrows every rod of the plane, and leaves a fresh deposit, where it has thus passed through this alluvial formation. This is a general characteristic of rivers, but it is more apparent on the Missouri, because the changes of position are more rapid than we generally find them. The magnitude of this river, its great fall, which has been estimated at one foot per mile, and the light texture of its banks; are the characteristics which have given to the Missouri its constant changes, and rendered it a more dangerous stream for navigation, and more difficult to control, than any river on our continent. At low water, the channel line in front of your city, is about thirty feet deep, and it rises above low water twenty feet, making its greatest depth at the time of floods about fifty feet. The width varies at all points of the river being in some places only six hundred feet wide, and at other points perhaps two miles. In front of the city of St. Joseph the river approaches the upper or north end of the city, from the west, striking a high bank at right angles, and by a strong

curve turning to the south, undermining the alluvial bank in front of the city, and by successive land slides removing houses and lots, and threatening in its yearly progress, the most densely settled portion of the city.

The plat, which is attached to this report was reduced from a plat formerly drawn by F. W. Smith, Esq., it will give a better idea of the nature of the current, and the progress of abrasion. The current strikes the yellow bank at "S," where the force has been checked by the more tenacious character of the earth. This point of direct action, is annually moved south by the general law of southern shifting, which I have before mentioned; and as the point of direct action moves south towards "a." the shore being of lighter texture, the effect becomes more formidable, and the work of destruction is constantly accelerated. The obstruction at "S." also causes an elevation in the river at this point, which is neutralized by a greater current, and reacting eddies, that abrade lower at the points, "b," "c." and "a." The dotted line in the river, shows the former position of the shore when Smith's plat was made; the bank is now shifted in some places from five to six hundred feet east of its former position. The progress, which in former years — when the direct action was north of the point "S," — was very slow; but now that this high hard clay bank is nearly passed the progress is much more rapid, and the greatest injury to the city has been inflicted within the past season. The natural tendency presents no encouragement, and the future consequences are every way calculated to justify the fearful apprehensions that generally prevail. The threatening aspect of the river has cast a gloom over your fair and prosperous city, which extends beyond those who see their homes destroyed; for the impression carried abroad affects your credit, and depresses the value of your property on the safest surrounding heights. Heretofore your pre-eminence in the north-west, your position as a great point for departure, for the California emigration, and especially the commencement of the Hanibal and St. Joseph Railroad, which terminates at your place; have attracted to you a general importance, which was calculated to increase your population, and greatly augment your prosperity. But in the midst of great surrounding advantages, your progress is arrested, your energies are suspended and points of inferior advantages are striving for ascendency. The great river, which in former years, has calmly borne away your surplus products, and like a faithful servant, promoted in a thousand ways, your prosperity and happiness; has now defied all your efforts of restraint, and has become a fearful foe threatening to drive you from your homes, and destroy the fair proportions of your devoted city.

I have thus defined the character of the evils that threaten St. Joseph,

because I regard the danger as serious, and only capable of being arrested by united and powerful exertions. The courtesy which you have extended to me, has put me in a position that justifies an appeal to your energeies, and I have thus presented the danger that you may unite and more successfully divert it.

In presenting a plan for checking the progress of the Missouri, I avail myself of the experience of past engineers in Europe and America. I do not favor expedients, but prefer the application of well settled and well tried experiments; and I thus fortify myself on this occasion, because I find by my own experience, that in this age of universal knowledge, everybody is ready to propose a plan for a river improvement, and the importance attached to various crude notions has been the cause of expensive outlays, vexatious hindrances, and sometimes entire destruction of important works. Remedies that have been since the days of Smeaton, effectually applied, the means that has checked other rivers, and especially the great Father of Waters, below the confluance of the Missouri; it would seem to me, may be safely applied to meet the case which your city has presented for my consideration. I see nothing in the Missouri, that materially differs from the main trunk at St. Louis, or the Desmoines at the "Big Yellow Bank;" and although my experience has been gained at the expense of much toil and anxiety; the result has always been so successful as to insure my confidence, and justifies the opinion I have formed, and now express, that *it is entirely practical to protect your shore and save your town from impending ruin.*

I recommend a heavy revetment of the bank throughout the city front, with brush and stone, commencing in the cross section at a point beyond where the slope begins under water, and carrying it up to the high-water mark. It is needless to attempt any graduation of the slope, as this could not be effected below the surface of the water, which varies from twenty to thirty feet in depth. Stone (of any size convenient for a man to handle,) must be let fall to sink and find its own position on the bed and sloping bank of the river. A number of flat boats should be provided from one hundred and fifty to two hundred feet in length, and from fifteen to twenty feet wide. They must be decked over with strong supports and two inch plank. They should be towed by a steamboat owned by the city and kept always ready for the purpose. The most convenient quary is that in Nebraska, known as "Rattlesnake Bluff." Here the boats should be loaded and the work of reveting should commence at the several points, "s," "a," "b," and the spaces connected by a continuous extension until the whole is completed throughout the whole front of the city. In placing the first stone at any point the boat should be landed at the shore,

and the work should commence by throwing the stones over the outside, i. e. the river side of the boat. The stones will float down some twenty feet in sinking, and the first will partially bury themselves in the mud; but by continuing the process proceeding towards the shore, and finally up the rough bank, it will make a complete covering, and a substantial and permanent shore. Small trees are to be hauled and thrown down from the top of the bank. They should be placed with their tops and branches up stream, and covered in with stone, that may for this purpose be hauled in wagons, and thrown down from the top of the bank.

The best quarries for procuring rubble stone, which may be thus applied by the use of wagons, are about two miles above town on the side of the hill. A wall should be made along the edge of the river, under the bluff, rising on the general level after passing the Yellow bank point. This brush and stone from wagons, should proceed simultaneously with the boats, and the quantity of brush will be governed by the circumstances that will be developed as you proceed. It is much cheaper than stone, but the current of the river will prevent the use of it to much extent, especially in deep water. By thus dividing forces, so as to have boats on the river moving constantly with large loads, wagons hauling from the quarry above town, and other teams hauling trees; the concentrated force at the river shore, will soon establish such a barrier to the current, as to check its eastern progress, and divert it beyond the point thus defended.—The revetment, as I have before intimated, should begin at a point some twenty feet from shore, and working towards the shore, it is to extend up the slope to high water mark. At the lowest and highest points the covering may be thin, say one foot thick; but it will have to vary in thickness from the nature of the bank, and the mode of depositing the material. The cross-section of the revetment, will present a crooked line, in the slope, which may be 60 feet long. Supposing the cross-section to average 6 feet in width, (which is the measure of the thickness of the covering, a much greater thickness than I have ever found it necessary to use) then the cross-section will contain 360 feet, and for every foot lineal of the river shore, there would be 360 cubic feet of this revetment, or 15 perches (nearly) of 25 cubic feet to the perch. This at $2 a perch, which is nearly double what such work has cost me, gives for the whole cost of the work, the round sum of 150 thousand dollars.

Any one acquainted with work, will be competent to judge of these estimates. The work may not cost half what I have estimated, and I cannot believe it possible that the cost will exceed it. There will be many contingencies such as discount on bonds, expenses of nego-

ciation, loss of boats, and various accidents by flood that I design to cover with this large estimate. My other engagements will probably prevent my immediate supervision of the work; but the success of the plan depends so much on the manner of its execution, that I desire to be fully understood, and then I wish the mode of execution which I prescribe also pursued, because that is an essential element to secure success. There must be no tampering or trifling with such a river. Honest, willing, and faithful men should have the supervision of every branch of the work.—Early and late the force should be steadily and economically applied. There should be no narrow restriction that will prevent the immediate command of adequate means, and ample material and force to make the commencement; but there should be no loose open way of keeping account of time or quantity of material; that will waste money in a useless way. Great care will be required to prevent the waste of stone and brush when it is being placed in the river. Constant attention and sound judgment must be exercised to prevent needless waste.—

This is the first serious attempt to check the progress of the Missouri river, and the consequences of success or a failure are important in every view of the matter. The effort deserves the helping hand of the National Government, and you have a right to hope that hereafter your expenditure may to some extent, at least, be reimbursed from the public treasure. Why is not the vital interest of your City, as worthy of National aid, as the improvement of Dubuque Harbour, a work that can only increase permanent natural advantages? I do not object to the National work at Dubuque, but I would like to see the policy extended to other points on our great Western waters. But for the present the matter must depend on your own immediate exertions. A failure will be discreditable to me, it will discourage improvements in the Missouri valley, and prove ruinous to yourselves. —I do not consider it safe to begin with 75 thousand Dollars, because it is not certainly sufficient; and it would be better not to begin, than to commence with a prospect of a failure. I recommend therefore that you procure by a vote of your property owners, the power to increase the loan to 150 thousand Dollars, before you venture on a work of so much consequence to your city. If that means be authorized, I recommend the immediate commencement of the work in the manner that I have suggested.—

By thus meeting the threatened danger, and applying the energies which you possess, you will restore confidence at home and abroad, check the progress of the evil, establish a safe and convenient landing; and secure to your City a permanent prosperity which will preserve its preeminence among the cities of North Western Missouri.—

Respectfully submitted. SAMUEL R. CURTIS, Engineer.

ARTICLE III.

Key to Uncle Tom's Cabin.—Review.

BY HON. A. BEATTY, OF KY.

I have read the Key to Uncle Tom's Cabin, which you were so good as to send me.* Mrs. Stowe has exhibited a strong array of facts to prove the *abuses* of the uncontrolled power of slave-owners over their slaves.

That arbitrary power, vested in any man or set of men, will, to a greater or less extent, be *abused*, is a truth that will be proved by the history of all mankind. Although the power, vested in slave-owners over their slaves, is not so *unlimited* as Mrs. Stowe seems to suppose, (as is proved by various decisions of our courts of Justice, that the master of a slave may be prosecuted and *hanged* for causing the death of a slave by excessive punishment,) yet that it will occasionally be greatly abused *by bad men*, all experience proves. Such an example is afforded in the case of Smith and Mima, (p. 104,) though it is manifest there is much exaggeration in the statement of the facts. For instance, it is related that with a rope round the neck of Mima, with a running noose, and tied to Smith's horse's neck, he rode at the rate of *five miles an hour*, his victim being compelled to run at that rate, to prevent being choked. That Smith "would jerk the rope every now and then; when jerked it would choke the prisoner." That "Smith was met, some time after dark, in about six miles of home, being 24 or 25 from Raleigh." Thus it is represented the woman Mima was dragged about thirty miles, from Raleigh Jail, by a rope with a slip noose around her neck, and that occasionally jerked to choke her, yet she had strength enough to kill her master, after arriving at home.

Mrs. Stowe speaks of this transaction being "disgraceful to the people, who tolerated it, in broad day-light," and she asks, why did they not strike the monster to the earth, and punish him for his infernal brutality?"

Making every allowance for the exaggeration of the testimony, in the particulars alluded to, the circumstances still prove that Smith was guilty of inhuman conduct towards his slave Mima, and he perhaps justly suffered the retribution which awaited him, during the night after reaching home. Conduct of the kind, exhibited by Smith, would be reprobated by 99 out of every 100 slaveholders; as would be the case in relation to the other instances of cruel and excessive punishment inflicted upon slaves.

If Mrs. Stowe would look at home, she would see that punishments equally cruel and inhuman, nay even more aggravated,

* This paper was addressed to a lady who had requested the author to read the Key to Uncle Tom's Cabin.

sometimes take their rise from the evil passions of men, in the North as well as in the South.

Mrs. Stowe has justly spoken of the religious sect of "Friends" (Quakers), on various occasions, in the most favorable terms. Now let us see what kind of punishment was inflicted upon this harmless and amiable Christian people, by Mrs. Stowe's New England ancestors for *no crime*, but simply because they came among them. In Lossing's Pictoral Field Book of the Revolution, p. 450, the law in relation to Quakers, is thus laid down. "In 1657, it was enacted that for every *hour's* entertainment, given to a Quaker, the entertainer should pay forty shillings. It was also enacted that every male Quaker should lose an *ear*, on the *first conviction*, and the *other* on a *second;* and *both* males and females, on a *third* conviction, were to have *their tongues bored through with a red hot iron.* In 1658, the death principle was enacted. Under it, those who should return to the colony a second time, after banishment, were to suffer *death.* From an unwillingness to inflict death, it was provided by a new law, in 1658, that any person being convicted of being a Quaker, should be delivered to the constable of the town, "to be striped naked from the middle upward, and tied to a cart's tail, and whipped through the town; and thence be *immediately* conveyed to the constable of the next town, towards the border of our jurisdiction, and so from constable to constable to any the outermost town, and so to be whipped out of the colony." In case of return, this was to be *twice repeated.* The fourth time the convict was to be branded with a letter R on the left shoulder, and after that, if incorrigible, to incur the *death penalty.*" These horrid enactments remained in force until abrogated by royal authority, in the reign of King William.

This horrid code of laws, enacted against the innocent Quakers, provides for the infliction of punishment of a far more brutal character—because not founded on the slightest colour of criminality, and because it was to be inflicted upon *all Quakers*—than those shown to have been inflicted by a few slave-holders of the South, in moments of irritation and excited passion.

Yet it would be equally unjust to upbraid the virtuous people of New England with these highly censurable acts of their ancestors as to charge upon southern society generally the acts of a few brutal and unfeeling slave-owners.

If the state of society in the South is to be judged of by the collection of brutal advertisements; by the still more brutal conduct of negro-traders; and by the occasional infliction of brutal chastisements by slave-owners, doubtless an unfavorable estimate would be formed. According to this mode of estimating character, California would be ranked very low indeed. With a comparatively small population, her history would exhibit a number of violations of moral propriety *ten times as great* as those found to exist

among the slave-holders of the South, in the *same length of time.* In every State of the Union criminal acts abound in a greater or less degree. We have lately had a sad example of this kind, in our State, in Greenup county. One family connection, out of *mere revenge*, conspired to destroy another neighboring family. Their diabolical purpose was carried out, by murdering an entire family—men, women and children. How unjust would it be to form an estimate of the character of the citizens of Greenup county from a horrid act of this kind?

Mrs. Stowe enters into a labored argument to prove that Legree (supposing him to be a real person,) would be justifiable, under the laws of Louisiana, in taking the life of Uncle Tom, because he refused to obey his unlawful and tyranical orders.

I need only say, that Mrs. Stowe is not so good a lawyer as she is a novel writer, or she would not have argued, in support of so absurd an opinion. If Legree had been a real person, and the acts attributed to him, had been proved, he would have been hanged, as he deserved to be, for murder.

The long argument "to show that justice has not been done in this horrible affair"—the prosecution of James Castleman for the murder of Lewis, p. 100, is still more puerile than that urged in the case of Legree; and proves that Mrs. Stowe's feelings are so strongly enlisted, in behalf of slaves against their masters, as to be wholly incapable of forming a correct opinion, in cases of this kind. Castleman was prosecuted for the murder of Lewis. The case, from the proofs in the cause, was so clear a one, that the jury did not deem it necessary to retire from the bar. Without a moment's hesitation, they pronounced a verdict of not guilty. The attorney for the Commonwealth proposed to enter a *nolle prosequi*, as to the case of Stephen D. Castleman, as the evidence, as to him, was the same as to James Castleman, who had just been acquitted. The Judge replied, that the case had been fully and fairly laid before the jury, upon the evidence, that the court was not only satisfied with the verdict, but if any other had been rendered, *it must have been set aside;* and if no other evidence was to be produced, on the trial of Stephen, the attorney for the Commonwealth would exercise a proper discretion in entering a *nolle prosequi* as to him, and the court would approve of its being done.

In a case thus clearly shown not to be murder, an elaborate argument is put forth to show "that justice had not been done in this horrible affair." In other words, that the jury ought to have brought in a verdict of guilty, and that the judge should have pronounced a judgment of death against a man, whom every lawyer would, without hesitation, say was not guilty.

Such are the opinions of Mrs. Stowe, in relation to a case, in which a person of colour is involved. Her sympathies are all enlisted on the side of the man of colour. She can behold nothing

but *horrid acts of oppression*, on the part of owners of slaves. Her sympathies are also strongly enlistod in favor of the white man, who is guilty of kidnapping slaves, in a slave-holding State, with an intention of transporting them to a free State. Her statement of the circumstances of the case of Richard Dillingham is ample evidence of this.—page 55—Another proof of the same fact is her bold approval of the declaration of John Garrett—p. 55—who declared his full determination to aid and assist run-away slaves, to escape from their masters. The facts of the case of Dillingham, as stated by Mrs. Stowe, are as follows.

He was engaged, in Cincinnati in teaching the coloured people. Learning that some of them had friends, who were slaves in Nashville, Tennessee, he went thither, and "was actually taken up and caught in the very fact of helping certain poor people (slaves) to escape to their friends. He was seized and thrown into prison. In the language of this world, he was imprisoned as "a negro-stealer." He was convicted and sent to the penitentiary for the term of three years, the shortest time prescribed by law. The evidence proved that he was in possession of these slaves, "whom he intended to convey with him to a free State." He made a full confession of his guilt. The case was therefore a clear one, and the Jury rendered as lenient a verdict as they could. Yet the case of Dillingham excited all the sympathies of Mrs. Stowe, and she details at large a variety of letters, and other circumstances, to excite sympathy in his behalf; but not a word of disapprobation of this clear case of "negro-stealing." Not satisfied with the full detail of the facts and circumstances (p. 55 to 59), she again refers to the case—p. 219—where she uses the following language: "There have been private Christians, who have counted nothing too dear for this sacred cause (abolition of slavery). Witness Richard Dillingham and John Garrett, and *a host of others*, who took joyfully the spoiling of their goods." "Tomy, meekly patient, died in prison, saying: If I am a guilty man, I am a very guilty one, for I have helped *four hundred slaves* to freedom, who, but for me, would have died slaves." Not a word of disapprobation of thus enticing away from their masters, 400 slaves.

How different acted the Council, held in Ireland, in the year 583, as described by Mrs. Stowe—p. 239.—"The zeal for this work (emancipation of Christian slaves) was so ardent, that *some of the clergy* even went so far as to induce captives to runaway." The Council "condemns this practice, and says that the clergyman who desires to save some captives, must do so with his own money, for to induce them to run away, was to expose the clergy to be considered as robbers, which was dishonorable to the church."

I will refer to only one other case to show how strongly Mrs. Stowe sympathises with all who aid and assist slaves to escape from their masters.

On the "evening of the 15th of April, 1848, not less than seventy-seven men, women and children, with beating hearts and anxious secrecy, stowed themselves away, in the hold of the little shooner, and Captain Drayton was so wicked, that he could not, for the life of him, say no to one of them" (p. 158.) The little schooner set sail "at 12 o'clock at night." By eleven next night "they had sailed 200 miles from Washington." The little schooner was, however, overtaken by a steam-vessel, which had been sent in pursuit, and was brought back to Washington City.

Mrs. Stowe fills thirteen of her closely printed pages in giving the incidents of this bold and daring attempt of Captain Drayton, in carrying off seventy-seven slaves from the City of Washington, in violation of the laws of his country, without the expression of one word of disapprobation of this wholesale system of stealing. All her eloquence and most earnest efforts are poured forth to excite sympathy, on behalf of the recaptured slaves, and to justify Captain Drayton for his attempt to carry them to a free State.

This, and the other cases referred to, show clearly that one great object of Mrs. Stowe's work (the Key to Uncle Tom's Cabin,) is to encourage abolitionists to entice away slaves from their masters, and to aid and assist them to escape to non-slaveholding States, or to Canada.

She has shown a similar spirit, by her denunciation of the great men of the cauntry, who have been patriotically laboring to preserve peace between the Northern and Southern States, and the perpetuation of our glorious Union, by advocating and successfully carrying through both Houses, what are commonly called the compromise acts.

"This letter (Reuben B. Carlle'ys) *strikingly illustrates the character of their fellow patriots* with whom *the great men of the land have been acting in conjunction*, in carrying out the *benificent* provisions of the fugitive slave law."

The sense in which she uses the term *beneficent*, may be seen p. 215, where she uses the following language:

"In 1850, was passed the *cruel* fugitive slave law. What deeds were done then! Then to our free States were transported those scenes of fear and agony before acted only on slave soil."

Carlley's letter referred to, to show the character of Henry Clay and his compatriots, proves him to be a low, rude and abominable slave-trader; and Mrs. Stowe associates him as a fit companion with such men as Henry Clay and the other honorable Senators and Representatives, who aided him in passing the several compromise acts, the object of which is to provide a legitimate mode of recapturing and carrying back absconding slaves from the non-slaveholding States.

There are, no doubt, many great abuses of the power legitimat-

ley belonging to slave-owners over their slaves, and it is to be regretted, that the several State laws have not made *excessive* or *unreasonable* punishment of slaves, an indictable offence. Such laws would be just and proper. The exercise of almost unlimited power, by the owners of three million of slaves, in the very nature of things, must give rise to great abuses, on the part of unfeeling and hard hearted owners of slaves. The laws should protect slaves as far as possible, against the exercise of tyrannical authority, by their masters.

I have remarked, that Mrs. Stowe has exhibited a strong array of facts to prove the abuses of the uncontrolled power, (uncontrolled except that death shall not be inflicted,) of slave-owners, over their slaves. But truth compels me to say, that in many cases the pictures drawn by her are highly coloured, and often much exaggerated. To notice them fully would too much extend my remarks. I will refer to one case only, as it relates to my own State. "The members of slave families may be forcibly seperated, so that they shall never more meet until the final judgment. And cupidity *often* induces the masters to practice what the law allows. Brothers and sisters, parents and children, husbands and wives are torn asunder, and permitted to see each other no more. These acts are *daily occurring in the midst of us.* The shrieks and the agony *often* witnessed, on such occasions, proclaim, with trumpet tongue, the inequity and cruelty of our system. There is *not a neighborhood*, where these heart-rending scenes are not displayed. There is *not a village* or *road*, that does not behold the sad procession of manacled outcasts."

The above are represented as of daily occurrence, in Kentucky, which is described as one of the slave-breeding States. The following are facts within my own knowledge. I was married to my present wife 2d July, 1804. Shortly after my marriage, I purchased from a neighbour, (who had them to spare,) a servant girl, who had a husband and two children, with the full and free consent of the mother, who is still living in my family. Her children, grand children and great grand children (including those who have died,) number about thirty. *Not one* of them has ever been sold, in the space of forty-nine years. Nor have I given one of them to any of my children, *living out of the State.* My children to whom I gave a servant maid each, often visited us, and always brought their female servant with them, and thus they had frequent opportunities of visiting their relations. One of my sons has recently removed to California, who owned one of the children of old Juda. This one I purchased from my son, that she might not be separated from her mother. The wife of my oldest son, who lived many years in Washington, two miles from my residence, owned a grand daughter of old Juda, who had a husband and several children. She has recently removed to Lexington, Missouri, in order to be near her father and other relations. But

that her servant-maid might not be seperated from her husband, she purchased him, at his request, so that he might accompany his wife and children to Missouri. I owned the husband, who was the most valuable hand on my plantation, and one that I could not spare, without great inconvenience. Yet, at his desire, and to accommodate his wife and children, I readily assented to the wish of Mrs. Beatty, to purchase him. These are facts known to you, and they are but a fair representation of the course pursued by my neighbours generally, all of whom are owners of slaves. None of them have ever witnessed the scenes of distress and suffering, described in the extract given above.

Compare this with the representation of the condition of "every slave in the breeding States," Kentucky being set down as one of them. I give the following as the highly drawn picture from page 150:

"An awful apprehension of his fate haunts the poor sufferer, *by day and by night, from his cradle to his grave.* Suspense hangs like a thunder cloud over his head. He knows that there is not a passing hour, whether he wakes or sleeps, which may not be the last, that he shall spend with his wife and children. *Every day or week* some acquaintance is snatched from his side, and thus the consciousness of his own danger is kept continually awake. Surely my turn will come next is his horrifying conviction, for he knows that he was *reared for this*, as the ox for the yoke, or the sheep for the slaughter. In this respect, the slave's condition is truly indescribable. Suspense, even when it relates to an event of no great moment, and "endures but for a night," is hard to bear. But when it broods over all, absolutely all that is dear, chilling the present with its deep shade, and casting its awful doom over the future, it must break the heart! Such is the suspense, under which *every slave*, in the *breeding States*, *lives*. It poisons all his little lot of bliss."

Now if this is true, all my slaves, and those of my neighbours, must be laboring under the horrors described above, and that *night and day, from their cradles to their graves.*

I have always been, and hope I will ever continue to be, an ardent and devoted advocate for a system of emancipation, which shall, by a gradual and practical process, *certainly* relieve the country from the evils of slavery. I believe that such a system must be devised and carried out by a constitutional provision of the several States, in which slavery exists. Such a constitutional provision can be introduced *only* with the consent of a majority of the legal voters of the several States, in which the institution of slavery exists. All discussions, on this subject, ought to be conducted in such a way, as to produce a conviction on the minds of a majority of the citizens, that *justice* and *sound policy* require, that slaves should be restored to freedom, by such a gradual pro-

cess of emancipation, as would be accomplished without too great sacrifice of pecuniary interest, on the part of the masters, and in such a way, as would prepare and fit the persons emancipated for the enjoyment of the rights and benefits of freemen.

This plan might be applicable only to those born after the commencement of the system, and thus would avoid the objection, that *vested rights* ought not to be interfered with, for no one can have *a vested right* in a child unborn. The public mind ought to be prepared by discussing this subject cooly and deliberately; not by charging the entire body of the slave-holders, as tyrants and children of the devil, but by appealing to their magnanimity, their generosity, their sense of justice, and to their republican principles. Their love to the Saviour, and the desire that every Christian must feel that his kingdom on earth should embrace all mankind, might be appealed to with great effect. What Christian is there, who would not most ardently desire that all Africa should be colonized and christianized, by the transfer of the African race to their native homes, after having been educated sufficiently to read the Bible, and initiated in the divine principles of Christianity? Why charge upon the South the deadly sin of holding their fellow-men in bondage? Would it not be attended with infinitely better effect to persuade them that they are instruments in the beneficent hands of allmighty God, in preparing the African race for the enjoyment of freedom, and the blessings of Christianity? That the time has now arrived when they can acquire imperishable honour, by engaging heartily and unanimously in the God-like work of relieving our country from the evils of slavery, and laying the foundation, with the blessing of God, of christianizing the coloured race, in Africa as well as in America? When it is recollected, that slavery was introduced into the South against the wishes of its inhabitants; and the difficulties in the way of sudden emancipation, the sympathies of the friends of abolition ought to be enlisted in favor of any practical plan of general emancipation, by a slow and gradual process. They should look to the insurmountable difficulties, which would oppose all attempts to relieve the country from the evils of slavery, by a sudden and universal emancipation of slaves; whilst, by a gradual system of emancipation, these difficulties could all be overcome, and the great and God-like work of relieving the country from the evils of slavery be *certainly accomplished.*

In looking over the work of Mrs. Stowe, I anxiously expected, from her fine talents, an exhibition of a practical plan for relieving the country entirely from the evils of slavery. When I came to her tenth chapter, under the head: "What is to be done?" I hoped to see some plan delineated, which would *effectually* and *entirely* remove the evil of slavery; but I found myself greatly disappointed. Her plan is, substantially, that emancipation shall be effected by the action of the various religious denominations. By church discipline, cutting off from church-membership all those who refuse

to emancipate their slaves. If this were attempted, it would inevitably split each church, of the different denominations into two separate branches, one the slaveholding, the other the non-slaveholding church.

The history given by Mrs. Stowe of the proceedings of the several churches—Presbyterian, old school, new school, Congregationalists, Methodists, Baptists, &c. prove that these churches are fully aware of the difficulties that would arise, and the insurmountable obstacles that would prevent the carrying out this plan of abolition. It would be far better if all these churches were to *recommend* to all their church-members to advocate and vote for some practical plan of gradual emancipation, by constitutional provision, but leaving to every member the right of exercising his own judgment, as to the proposed amendment of the constitution. A *recommendation* of the various churches, still leaving free scope to the exercise of their own judgments, by each individual member, would doubtless have great effect. This, coupled with a calm and dispassionate consideration of the proposed amendment of the constitution, could hardly fail to secure a majority in its favor.

The declaration of the General Assembly of the Presbyterian church, in 1846, goes far to show that the plan proposed by Mrs. Stowe can never be carried out. This declaration is a very sensible and discreet document. (p. 213.)

Mrs. Stowe prefers, as the foundation of her system of emancipation, the declaration of the Presbyterian church, made in 1818. This declaration sets forth, in very strong terms, the sinfulness of the system of slavery, and its *absolute inconsistency* with pure Christianity. It enjoins as a *duty*, that all christians should "use honest, earnest unwearied endeavours to correct the *errors* of former times, and as *speedily as possible* to efface this blot on our holy religion, and *to obtain the complete abolition of slavery* throughout christendom, and throughout the world."

This declaration, so far as it is quoted by Mr. Stowe, does not propose to enforce its principles, upon church members by the exercise of church discipline, but this seems to be inferred by Mrs. Stowe; who says: "Here we have the Presbyterian church, slaveholding and non-slaveholding, *virtually* formed into one great *abolition society*, as we have seen the Methodist was." In 1784, in the Methodist church, "rules were adopted, prescribing the times at which members, who were already slave-holders, should *emancipate their slaves.*" "Every person, who will not comply with these rules, shall have liberty quietly to withdraw from our society within the twelve months following, the notice being given him as aforesaid, otherwise the assistants shall exclude him from the society." "No person, holding slaves, shall, in future, be admitted into the society, or to the Lord's supper till he previously comply with these rules, concerning slavery. Those who buy,

or sell, or give (slaves) away, unless on purpose to free them, shall be expelled immediately."

Here is an *abolition society*, sufficiently strong and energetic, to meet the views of Mrs. Stowe, and such a one as she seems to desire should be introduced into all churches, and especially in the Presbyterian. But experience convinced both the Methodist and Presbyterian churches, that they could not enforce such stringent regulations, without cutting up and dividing their churches, and thus doing more harm than good to the cause of emancipation, in as much as it would rivet slavery more firmly by the erection of slaveholding churches throughout all that region of country where slavery is tolerated. By such a division, the non-slaveholding churches would loose all their influence over the churches, located in slaveholding States, and could no longer, by the exercise of moral means, aid in promoting the cause of gradual emancipation.

Both the Methodist ond Presbyterian churches, from the best of motives, have been obliged to change the ground they had taken, in relation to the question of slavery. There is now, therefore, no hope for the removal of the evils of slavery, but by the adoption of a system of gradual emancipation, by a constitutianal provision, in each of the several States, but adapted to the accomplishment of the great object of relieving the country from the evils of slavery.

To those who object to this plan of emancipation because public sentiment is against it, I would say, that no plan of emancipation or abolition can be adopted, in any State, without the assent of a majority of the people of such State; and that whilst public sentiment is *almost* unanimous against every plan of sudden and *immediate abolition of slavery*, there is a wide spread and growing sentiment in favor of a reasonable and practical plan of gradual emancipation. If this subject is properly brought before the public, and discussed in a calm and dispassionate manner, by our own citizens, as a measure of State policy, justice and propriety, I do not doubt that it would meet the approbation of a majority of the citizens of Kentucky. We see, from the historical review of the proceedings of the various religious denominations, in the United States, as given by Mrs. Stowe, that they *unanimously* consider that slavery is a great evil, and that some plan ought to be devised for its *entire removal*. Let some reasonable plan be adopted to accomplish this object, and without doubt *all or nearly all* the members of these several churches would heartily support such a plan. The influence of those churches, aided by the votes of great numbers of good men, who belong to no particular church-denomination, would secure a majority, in support of a judicious plan of gradual emancipation. Such a plan would *certainly* remove the evil, wholly and entirely, within a reasonable length of time. Other plans which have been suggested, would, at best, only partially remove the evil.

If it be objected, that gradual emancipation will be *too slow* in its operation, I reply that all other plans will be *still slower*, because they will *never* completely emancipate our slave population.

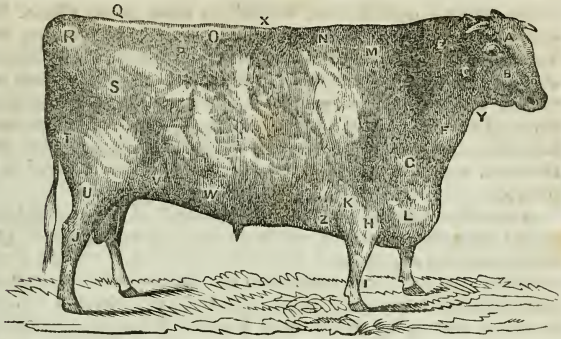
2d. The plan of gradual emancipation may provide that all the children to be emancipated shall be fitted for the enjoyment of freedom, by having them taught to such an extent as to prepare them for the enjoyment of that blessing.

3rd. This plan will not interfere with *vested rights*. Mrs. Stowe estimates the value of slave property, at its present high rates, to be two thousand millions of dollars. If it is worth only half that amount, it is a very large sum. We could not reasonably expect that slave-owners would be willing to make so great a sacrifice as to yield up, at once, this immense sum, vested in slave-property. The plan suggested does not propose that one dollar of this immense sum shall be yielded up by slave-owners. May we not reasonably hope they, or at least a large number of them, will yield their support to the proposed plan of emancipation?

4th. Children, born after the constitutional provision, should be raised and educated by their masters; in consideration of which, they should be entitled to their services, until they shall have arrived at such an age as would amply repay them for all their care in rearing and educating them. I would suggest twenty-four years, at which age boys and girls, and the offspring of the latter, after the commencement of the system, should be free. As to the age at which they shall be free, it is matter of only secondary importance, and should be the subject of reasonable adjustment by all our citizens, who are in favor of gradual emancipation.

In relation to slaves in being, at the time the system of gradual emancipation commences, a majority of them will have passed of this stage of action, before any children will become free. Very many will be voluntarily emancipated by their owners, in their life time, or by will. Many will be emancipated to accompany their children to Liberia, or to non-slaveholding States, if they should choose to go there. In a word, the process of gradual emancipation, under the constitutional provision, will be greatly promoted by voluntary emancipation, to a greater or less extent, of those not coming within the constitutional provision. In fifty years, there will hardly be a slave remaining in any State which shall have adopted the system of gradual emancipation.

But if nothing is done, we may reasonably calculate that in fifty years the slaves will number from twelve to fifteen millions. A great and united effort should be made to prevent such a result, springing from careless indifference.



CLEVELAND LAD—The property of THOMAS BATES, Esq., of Kirkleavington, England.

EXPLANATIONS:

A—Forehead.
B—Face.
C—Cheek.
D—Muzzle.
E—Neck.
F—Neck.
G—Shoulder point.
H—Arm.
I—Shank.
K—Gambril or Hock.
L—Brisket, Bosom or Breast.
M—Shoulder.
N—Crops.
O—Loin.
P—Hips, hucks, hocks or huckles.
Q—Crupper bone, or sacrum.
R—Rump, or pin bone.
S—Round bone, thurl or whirl.
T—Buttock.
U—Thigh, or gaskit.
V—Flank.
W—Plates.
X—Back, or chine.
Y—Throat.
Z—Chest.

ARTICLE IV.

[From "The Farm and Garden."]

What is Perfection in Cattle?

It has long been lamented by the breeders of Improved Cattle, that the Agricultural Societies did not establish a Scale of Points by which they might be judged, when exhibited for premiums at the annual cattle shows. Without such a Scale, it has been impossible to arrive at anything definite in breeding; and the judgment of the committees appointed to award the premiums have consequently been as capricious from year to year as the winds—thus doing great injustice to the breeders, and leaving the inexperienced completely in the dark as to the course they should pursue.

For the past eleven years we have strenuously advocated a reform in this particular; and in 1847 we wrote out and published in the *American Agriculturist*, such a Scale of Points as in the judgment of our friends and self would establish a more certain state of things. No Society however could be influenced to move

in the matter; nevertheless, we did not cease in our efforts, but whenever occasion offered, we brought the subject before the New York State Agricultural Society, till at last seconded by several able and efficient breeders, the subject was taken up in earnest last winter, and a committee appointed to discuss the matter and report. This they have at length done through their able and indefatigable chairman, Mr. FRANCIS ROTCH, of Otsego, and two thousand copies in pamphlet form of this report are ordered to be printed.

Although appointed one of the members of this committee, urgent business prevented our attending its meetings in Albany, which we much regret, as it would have afforded us no less pleasure than profit to have listened to the discussions of its several members, and noted the reasons which influenced them in their decisions in making up this Scale of Points. We are free to confess that there are some things adopted in this Scale which we do not approve of entirely; and are of opinion that it might undergo modification before it will be considered perfect by all breeders; still it is a great deal better than nothing; and we have no doubt it will have a decided influence for good in aiding, and even in some measure governing the decisions of future awarding committees on cattle. We are therefore rejoiced to see it adopted by the New-York State Agricultural Society; and are highly gratified that the Empire State should lead in this particular. We hope now that a Scale of Points may be adopted for everything else exhibited at the Agricultural Shows; we may then expect an acceleration in improvement which otherwise will be looked for in vain.

Points of Excellence in Cattle, adopted by the New York State Agricultural Society, for the Judges at their Annual Fairs.

The numbers affixed to the points described form the *maximum* that is to be allowed for each; and in proportion as the animal under examination is deficient in any point, so will the Judges decrease the number, even should nothing be allowed for that point.

Points which are characteristic, and therefore common to a *breed*, though very valuable in themselves, are marked comparatively low, because they are easily obtained, and demand but little skill or attention on the part of the breeder; nevertheless, an animal not possessing the characteristics of *its own breed*, must of necessity be almost worthless. On the other hand it will be observed that points of less value, perhaps, in themselves, but which are characteristic *deficiencies* in the breed, or at any rate difficult to sustain at their maximum excellence, are marked numerically high, as they go far to complete or perfect the natural excellence of the animal.

Again, for the above reasons, it will be found that the *same* points, in *different breeds*, have different numerical values attached to them.

The total of the numbers make 100.

Points of a Shorthorn Cow.

PEDIGREE—showing unbroken descent, on both sides, from known animals, derived from English herds, as found in the English or American Herd Books, and without this, an animal can not compete in this class.

3 The HEAD, small, lean and bony, tapering to the muzzle.

2 The face somewhat long, the fleshy portion of the NOSE of a light delicate color.

2 The EYE is of great significance, and should be prominent, bright and clear—"prominent," from an accumulation of "adeps" in the back part of its socket, which indicates a tendency to lay on fat—"bright," as an evidence of a good disposition—"clear," as a guarantee of the animal's health; whereas a dull, sluggish eye belongs to a slow feeder, and a wild, restless eye betrays an unquiet, fitful temper.

1 The HORNS—light in substance and waxy in color, and symmetrically set on the head; the EAR large, thin, and with considerable action.

2 The NECK—rather short than long, tapering to the head; clean in the throat, and full at its base, thus covering and filling out at the points of the shoulders.

14 The CHEST—broad from point to point of the shoulders; deep from the anterior dorsal vertebra to the floor of the sternum, and both round and full just back of the elbows; sometimes designated by the phrase, "thick through the heart." These are unquestionably the most important points in every animal, as constitution must depend on their perfect development, and the ample room thus afforded for the free action of the heart and lungs.

3 The BRISKET, however deep or projecting, must not be confounded with *capacity* of chest; for though a very attractive and selling point, it, in reality, adds nothing to the space within, however it may increase the girth without. It is in fact nothing more nor less than a muscular adipose substance, attached to the portion of the sternum, or breast-bone, and thence extending itself back. This form, however, of the brisket indicates a disposition to lay on fat generally throughout the frame, and in this point of view is valuable.

4 The SHOULDER, where weight, as in the Shorthorn, is the object, should be somewhat upright and of good width at the points, with the blade-bone just sufficiently curved to blend its upper portion smoothly with the crops.

8 The CROPS must be full and level with the shoulders and back; and is, perhaps, one of the most difficult points to breed right in the Shorthorn.

8 The BACK, LOIN and HIPS should be broad and wide, forming a straight and even line from the neck to the setting on of the tail, the hips or hucks round and well covered.

5 The RUMPS laid up high, with plenty of flesh on their extremities.

1 The PELVIS should be large, indicated by the width of the hips (as already mentioned) and the breadth of the twist.

2 The TWIST, should be so well filled out in its "seam" as to form nearly an even and wide plain, between the thighs.

5 The QUARTERS—long, straight, and well developed downwards.

4 The CARCASS—round; the ribs nearly circular, and extending well back.

3 The FLANKS—deep, wide, and full in proportion to condition.

2 The LEG—short, straight, and standing square with the body.

3 The PLATES of the belly strong, and thus preserving nearly a straight under line.

2 The TAIL—flat and broad at its root, but fine in its cord, and placed *high up*, and on a level with rump.

2 The CARRIAGE of an animal gives style and beauty; the walk should be square and the step quick; the head up.

15 QUALITY—On this the thriftiness, the feeding properties, and the value of the animal depends; and upon the touch of this quality rests, in a good measure, the grazier's and the butcher's judgment. If the "touch" be good, some deficiency of form may be excused; but if it be hard and stiff, nothing can compensate for so unpromising a feature. In raising the skin from the body, between the thumb and finger, it should have a soft, flexible and substantial feel, and when beneath the out-spread hand, it should move easily with it, and under it, as though resting on a soft, elastic, cellular substance; which, however, becomes firmer as the animal "ripens." A thin paper skin is objectionable, more especially in a cold climate.

2 The COAT should be thick, short and mossy, with longer hair in winter, fine, soft and glossy in summer.

3 The UDDER—pliable and thin in its texture, reaching well forward, roomy behind, and the teats standing wide apart, and of convenient size.

Points of the Shorthorn Bull.

As regards the male animal, it is only necessary to remark, that the points desirable in the female are generally so in the male, but must, of course, be attended by that masculine character which is inseparable from a strong, vigorous constitution. Even a certain degree of coarseness is admissible, but then it must be so exclusively of a masculine description as never to be discovered in the females of his get.

In contra-distinction to the cow, the head of the bull may be shorter, the frontal-bone broader, and the occipital flat and stronger, that it may receive and sustain the horn—and this latter may be excused if a little heavy at the base, so its upward form, its

quality and color be right. Neither is the looseness of the skin, attached to, and depending from the under jaw, to be deemed other than a feature of the sex, *provided* it is not extended beyond the bone, but leaves the gullet and throat clean and free from dewlap.

The upper portion of the neck should be full and *muscular*, for it is an indication of strength, power and constitution. The spine should be strong, the bones of the loin long and broad, and the whole muscular system wide and thoroughly developed over the entire frame.

North Devons.

PURITY of blood, as traced back satisfactorily to importations of both dam and sire, from known English breeders, or as found in the lately established Herd Book, for North Devons, and without this, an animal can not compete in this class.

4 The HEAD should be small, lean and bony, the forehead wide, flat, or from a fullness of the frontal bone over the eyes, somewhat dishing; the face, straight; the muzzle fine; the nostrils open; the lips thin and rather flat.

4 The NOSE of a light delicate orange color.

4 The EYE should be bright, prominent and clear, but mild and gentle in its expression, as indicative of that spirited, but tractable disposition so necessary to cattle that must bear the yoke; a beautiful orange-colored ring should invariably surround the eye.

2 The EAR—thin; of a rich orange-color within, of medium size, with a quick and ready movement, expressive of attention.

2 The HORNS—light, tapering, of a waxy color toward the extremity, and gaily as well as symmetrically placed on the head; the occipital bone narrow, thus bringing the base of the horns nearer together.

2 The NECK of medium length, somewhat light in substance, very clean, and well set up on the shoulder.

14 The CHEST—deep and round, carrying its fullness well back of the elbows, thus affording, by the aid of a springing rib, abundant internal room for the action of the thoracic viscera, the heart and lungs, and that too without an *extreme* width forward, and between the points of the shoulders, which might interfere with the action of the animal.

4 The BRISKET—it being assumed that it adds nothing to the internal capacity of the chest, must not overload the breast, but be sufficiently developed to guarantee a feeding property, attended with a full proportion of fatty secretion.

4 The SHOULDER is, in this breed, a very beautiful and important point, and should in a *degree* approximate in form to that of the horse. It should take a more sloping position than is found in most other breeds, with its points less projecting, and angular

and the blade bone more curved, thus blending with and forming a fine wither, rising a little above the level line of the back.

3 The CROPS full and even, forming a true line with the somewhat rising shoulder, and level back, without either drop or hollow.

9 BACK, loin and hips, broad and wide, running on a level with the setting on of the tail.

5 The RUMPS—lying broad apart, high, and well covered.

2 The PELVIS—wide.

3 The TWIST—full and broad.

6 The QUARTERS long and thoroughly filled up between the hooks, or hip bones, and the rumps; with a good muscular development down the thigh to the hooks.

3 The FLANK—moderately deep, full and mellow in proportion to condition.

5 The LEGS not too short, and standing as square, and straight behind, as may be compatible with activity. The bone quite small below the hock and knee; the sinews large and clean, with the forearm well developed.

2 The CARCASS round and straight; its posterior ribs almost circular, extending well back, and springing nearly horizontally from the vertebra, giving, in fact, much greater capacity than would at first appear.

1 The TAIL, at its junction, level with the back, long, very slender in its cord, and finishing with a tassel of white hair.

1 The COLOR, in its *shades* and *degrees*, is more or less governed by fashion; but in the Devon is always red. Formerly a rich blood-red was the favorite color, and a test of purity; and now a somewhat lighter color is in vogue, approaching rather nearer to that of the *South* Devon, which is a larger, coarser, stronger animal. In all cases the color grows lighter round the muzzle, while a dark mahogany color, verging almost to a black, and growing yet darker about the head, always was a very questionable color, for a *true North Devon*, more especially when accompanied by a dark nose.

1 The HAIR should be short, thick and fine; and if showing on its surface a fine curl, or ripple, it looks richer in color, and is supposed to indicate a hardier and more thrifty animal.

1 The UDDER should be such as will afford the best promise of capacity and product

3 CARRIAGE—the Devons having, from their excellence in the yoke, another destiny besides that of the butcher's block, it is all important that the animal's carriage should indicate as much; but to obtain this, something of the heavy, inert, squarely molded frame of the merely beefing animal must be relinquished for a lighter and more active frame.

15 QUALITY—on this the thriftiness, the feeding properties, and the value of the animal depends; and upon the touch of this qual-

ity rests, in a good measure, the grazier's and the butcher's judgment. If the "touch" be good; some deficiency of form may be excused; but if it be hard and stiff, nothing can compensate for so unpromising a feature. In raising the skin from the body, between the thumb and finger, it should have a soft flexible and substantial feel, and when beneath the out-spread hand, it should move easily with it, and under it as though resting on a soft, elastic, cellular substance; which, however, becomes firmer as the animal "ripens." A thin papery skin is objectionable, more especially in a cold climate.

Points of the Devon Bull.

As regards the male animal, it is only necessary to remark, that the points desirable in the female are generally so in the male, but must, of course, be attended by that masculine character which is inseparable from a strong, vigorous constitution. Even a certain degree of coarseness is admissible, but then it must be so exclusively of a masculine description as never to be discovered in the females of his get.

In contra-distinction to the cow, the head of the bull may be shorter, the frontal-bone broader, and the occipital flat and stronger, that it may receive and sustain the horn—and this latter may be excused if a little heavy at the base, so its upwards form, its quality and color be right. Neither is the looseness of the skin, attached to, and depending from the under jaw, to be deemed other than a feature of the sex, *provided* it is not extended beyond the bone, but leaves the gullet and throat clean and free from dewlap.

The upper portion of the neck should be full and *muscular*, for it is an indication of strength, power and constitution. The spine should be strong, the bones of the loin, long and broad, and the whole muscular system wide and thoroughly developed over the entire frame.

Herefords.

PURITY of blood, as traced back to the satisfaction of committees, to imported blood, *on both sides*, from some known English breeder, or as found in EYTON'S Hereford Herd Book.

3 The HEAD—moderately small, with a good width of forehead tapering to the muzzle; the cheek-bone rather deep, but clean in the jaw.

2 The NOSE, light in its color, and the whole head free from fleshiness.

2 The EYE full, mild, and cheerful in its expression.

1 The EAR of medium size.

2 The HORNS—light and tapering, long and spreading, with an outward and upward turn, giving a gay and lofty expression to the whole head.

2 The NECK—of a medium length; full in its junction with the shoulders, spreading well over the shoulder points, and tapering finely to the head.

14 The CHEST—broad, round, and deep; its floor running well back of the elbows, which with a springing fore-rib, gives great interior capacity to this all important portion of the body.

4 The BRISKET—*when in flesh*, largely developed, descending low between the legs, and deep, by covering the anterior portion of the sternum, or breast bone, but never interfering with the action of the animal when in working condition.

3 The SHOULDER—lying snugly and closely in towards the top, and spreading towards the points; the blade sloping somewhat back, and running pretty well up into the withers, which by rising a very trifle above the level line of the back, gives to the ox a very upstanding and beautiful foreend. The whole shoulder well clothed with muscle.

3 The CROPS—filling all up evenly behind the shoulders, and blending them smoothly with the muscles of the back.

8 The BACK, loin and hips, should be broad, wide and level.

4 The RUMPS should lie nearly, or quite level with the back, and their covering should be abundant, mellow, loose, and freely moving under the hand, thus showing great aptitude to fatten.

3 The PELVIS—roomy; indicated by wide hips, as already mentioned, and the space between the rumps which should stand well apart, giving a general breadth to the posterior portion of the animal.

5 The TWIST, broad and full, extending well down on each side of the thigh, with corresponding width—a broad twist is a good indication of a butcher's animal.

6 The HIND QUARTERS—large and thoroughly developed in its upper and more valuable portions of beef. The thigh gradually tapering to the hock, but muscular.

3 The CARCASS—round throughout; full and capacious, with the under line of the belly level, or nearly so.

3 The FLANK full and wide.

3 The LEGS—straight, upright; firmly placed to support the superincumbent weight; a strong back sinew, but by no means a large, coarse cannon bone.

3 The PLATES of the belly strong, and thus preserving nearly a straight under line.

2 The TAIL—large and full at its point of attachment, but fine in its cord.

3 The CARRIAGE—prompt, resolute, and cheerful; and in the ox, gay and lively.

3 The HAIR—thick, close and furry, and if accompanied with a long growth, and a disposition to curl moderately, is more in

estimation, but that which has a harsh and wiry feel, is objectionable.

2 The UDDER should be such as will afford the best promise of capacity and product.

1 COLOR—reds or rich browns, oftentimes very dark, with a white or "brockled" face, are now the colors, and marking of the Herefords, though grey Herefords or cream-colored, are not uncommon.

15 QUALITY—On this the thriftiness, the feeding properties, and the value of the animal depends; and upon the touch of this quality rests, in a good measure, the grazier's and the butcher's judgment. If the "touch" be good, some deficiency of form may be excused; but if it be hard and stiff, nothing can compensate for so unpromising a feature. In raising the skin from the body, between the thumb and finger, it should have a soft, flexible and substantial feel, and when beneath the out-spread hand, it should move easily with it, and under it, as though resting on a soft, elastic, cellular substance; which, however, becomes firmer as the animal "ripens." A thin papery skin is objecionable, more especially in a cold climate.

Points of the Hereford Bull.

As regards the male animal, it is only necessary to remark, that the points desirable in the female are generally so in the male, but must, of course, be attended by that masculine character which is inseparable from a strong, vigorous constitution. Even a certain degree of coarseness is admissible, but then it must be so exclusively of a masculine description as never to be discovered in the females of his get.

In contra-distinction to the cows, the head of the bull may be shorter, the frontal-bone broader, and the occipital flat and stronger, that it may receive and sustain the horn—and this latter may be excused if a little heavy at the base, so its upward form, its quality and color be right. Neither is the looseness of the skin, attached to, and depending from the under jaw, to be deemed other than a feature of the sex, *provided* it is not extended beyond the bone, but leaves the gullet and throat clean and free from dewlap.

The upper portion of the neck should be full and *muscular*, for it is an indication of strength, power and constitution. The spine should be strong, the bones of the loin long and broad, and the whole muscular system wide and thoroughly developed over the entire frame.

Ayrshires.

PURITY of blood, as traced back to importations of both dam and sire, under such evidence as will satisfy committees.

4 The HEAD, as in other breeds, small; the face long and narrow, the muzzle and nose variable.

2 The EYE placid and not strikingly large.

4 The EAR of full size, and of an orange color within.

2 The HORNS small, tapering, with an outward and upward turn, and set on wide apart; the face somewhat dishing.

4 The NECK of medium length, clean in the throat, very light throughout, and tapering to the head.

6 The SHOULDERS lying snugly to the body, thin at their top, small at their points, not long in the blade, nor loaded with muscle.

12 The CHEST must retain sufficient width and roundness to insure constitution. The lightness of the fore-quarter, and the "wedge-shape" of the animal, from the hind-quarter forward, arising more from a small, flat and thin shoulder, than from any undue narrowness of the chest.

4 The CROPS easily blend in with so thin a shoulder and prevent all hollowness behind.

4 The BRISKET not over-loading the fore-end, but light.

8 The BACK should be straight, and the loin wide, the hips rather high and well-spread.

4 The PELVIS roomy, causing a good breadth at what is termed the "thurl," or "round-bone," and between the points of the rumps.

6 The QUARTERS long, tolerably muscular, and full in their upper portion, but molding into the thighs below, which should have a degree of flattness, affording thus more space for a full udder. The flank well let down, but not heavy.

8 The RIBS, behind, springing out *very* round and full, affording space for a large udder, which by Ayrshire breeders is considered very essential to secure the milking property; the whole carcass thus acquiring increased volume towards its posterior portion.

5 The RUMPS nearly level with the back, projecting but little.

1 The TAIL thin in its cord, of full length, light in its hair, and set somewhat farther into the back than would be admissible with some other breeds.

3 The LEGS delicate and fine in the bone, inclining to be short, and well knit together at the joints.

12 The UDDER in this breed is of more especial importance, as the Ayrshires have been bred almost exclusively with reference to their milking properties. The great feature of the udder should be capacity, without being fleshy. It should be carried squarely and broadly forward, and show itself largely behind. As it rises upward it should not mingle too immediately with the muscle of the thighs, but continue to preserve its own *peculiar* texture of skin—thin, delicate and ample in its folds. The teats should stand wide apart, and be lengthy, but not large and coarse.

6 The HANDLING will show the skin to be of medium thickness only, moving freely under the hand, and evincing a readiness in the animal to take on flesh, when a drain on the constitution is no longer made by the milkpail.

4 The HAIR soft and thick, in the phraseology of the country, woolly.

1 COLOR, varies—a dark red—a rich brown—a liver color, or mahogany, running into almost a black; those very much broken and spotty at the edges on a white ground are the favorite colors at the present time. The light yellow is, however, a color sometimes found on very good cows, but these pale colors are objected to from an impression that such belong to animals of less constitution.

1 CARRIAGE should be light, active and even gay: this latter appearance is much promoted by the upward turn of the horn.

Points of the Ayrshire Bull.

As regards the male animal, it is only necessary to remark, that the points desirable in the female are generally so in the male, but must, of course, be attended by that masculine character which is inseparable from a strong, vigorous constitution. Even a certain degree of coarseness is admissible, but then it must be so exclusively of a masculine description as never to be discovered in the females of his get.

In contra-distinction to the cows, the head of the bull, may be shorter, the frontal-bone broader, and the occipital flat and stronger, that it may receive and sustain the horn—and this latter may be excused if a little heavy at the base, so its upward form, its quality and color be right. Neither is the looseness of the skin attached to, and depending from the under jaw, to be deemed other than a feature of the sex, *provided* it is not extended beyond the bone, but leaves the gullet and throat clean and free from dewlap.

The upper portion of the neck should be full and *muscular*, for it is an indication of strength, power and constitution. The spine should be strong, the bones of the loin long and broad, and the whole muscular system wide and thoroughly developed over the entire frame.

STATISTICAL DEPARTMENT.

CIVIL STATISTICS OF ST. LOUIS COUNTY, MO.

Receipts and Expenditures of the County of St. Louis for the year ending April 30, 1852.

GENERAL COUNTY FUND.

RECEIPTS.

May 1, 1853—Balance—		
Received Jno Brady Smith, Collector.....		$19,614 03
Tax on persons and property.....	$94,833 39	
Tax on Licences.....	47,740 82	
Francis Jones, tax on D. shops.....	2,530 80	
V. C. Musick, " "	12,453 17	
M. Schisler, road damages.....	75 00	
R. J. Howard, costs in criminal cases.....	6 00	
Ed. Farmer, materials bridge on old Gravois Road.....	15 00	
John F. Long, damages refused.....	262 00	
Pacific Railroad, interest refunded.....	300 00	158,216 18
		$177,830 21
Paid out.....		137,733 77
Balance.....		$40,096 41

ROAD FUND.

May 1st, 1852, balance on hand.....	$10,720 07
Received of J. B. Smith, tax on persons and property outside of the city.....	10,925 88
	21,645 95
Paid out.....	7,474 47
Balance.....	$14,171 48

JURY FUND.

Received of Sheriff, Marshal and Clerks, Jury fees,.	$3,858 33
Paid Jurors Certificates.....	10,009 85
Balance paid out of County fund.....	$6,151 52

COUNTY SCHOOL FUND.

Received from sundry sources.....	$2,679 80
Paid out.....	2,321 00
Balance.....	$348 80

STATE SCHOOL FUND.

May 1st, 1852, balance on hand		$934 76
Received apportionment fund for St. Louis County		2,107 05
		$3,041 81
Paid out		2,095 41
Balance		$946 40

TOLL FUND.

May 1st, 1852, balance in treasury		$1,832 10
Received Toll collected on the several Macadamized roads in the county		19,728 34
Paid out superintendance, repairs, &c		15,001 50
Balance		$6,558 94

FUND FOR MACADAMIZING ROADS UNDER LAW 1849.

Amount expended on the several roads authorized to be macadamized for the present year, as per certificates of Co. Engineer	$84,298 24	

LOAN FUND.

1852, May 1, balance in treasury	$27,621 05	
Rec'd J. B. Smith, tax on licenses	9,283 01	
" " " property	18,055 90	
" T. Jones " dram shops	630 96	
" V. C. Musick "	3,201 07	58,791 99

PAYMENTS.

Remittance to Phoenix Bank, New York, to redeem bonds and pay interest		11,500 00
Balance		$47,291 99

INDEBTENESS OF THE COUNTY OF ST. LOUIS IN COUNTY BONDS.

Bonds issued for road fund, law 1847, interest 8 per cent	$50,000 00
Bonds issued for road fund, law 1849, interest 7 per cent	400,000 00
Bonds issued for payment of $200,000, held by County in capital stock Pacific railroad, interest 6 per cent	110,000 00
Bonds issued in payment of $30,000 held by county in capital stock Central plank road company, interest 7 per cent	23,000 00
Bonds issued for stock Cass avenue plank road company, interest 7 per cent	5,000 00
Bonds issued for stock natural bridge plank road company, interest 7 per cent	52,000 00
Bond issued for loan fund in 1843	10,000 00
	$650,000 00

STOCK SUBSCRIBED BY THE COUNTY.

To Pacific railroad ($110,000.) paid by issue of county bonds $200,000 00
To Ohio and Mississippi railroad, payable in 6 per cent. bonds, July 1, 1853 ....200,000 00
To St. Louis and Iron Mountain Railroad payable in 6 per cent. bonds.....500,000 00
To North Missouri Railroad, payable in 6 per cent bonds.....500,000 00
To natural bridge plankroad company.... 52,000 00
To Central plankroad company (23,000 paid) 30,000 00
To Cass avenue plank road company..... 5,000 00
To Lafayette avenue plankroad company 2,000 00
———$1,489,000 00

LEWIS F. LACY, Clerk.

COMMERCE OF NEW ORLEANS.

Statement of Cotton Received at New Orleans, and Total Crop of the U. S., from 1842 *to* 1852 *inclusive.*

Year.	Total Receipts at New Orleans.	Total Crop of U. States.
1842—43.....	1,075,394 bales.	2,378,875
1843—44.....	850,342 "	2,030,409
1844—45.....	954,285 "	2,394,503
1845—46.....	1,041,393 "	2,100,537
1846—47.....	707,324 "	1,778,651
1847—48.....	1,188,733 "	2,347,634
1848—49.....	1,090,797 "	2,728,596
1849—50.....	797,387 "	2,096,706
1850—51.....	950,220 "	2,355,257
1851—52.....	1,429,183 "	3,015,029
1852—53.....	1,664,864 "	*3,220,000

* Estimated.

VALUE OF PRODUCTS FROM THE INTERIOR FOR SEVEN YEARS.

Total	estimated	value in	1846–47.....	$90,033,256
"	"	"	1847–48.....	79,779,151
"	"	"	1848–49.....	81,989,692
"	"	"	1849–50.....	96,897,873
"	"	"	1850–51.....	106,924,083
"	"	"	1851–52.....	108,051,708
"	"	"	1852–53.....	134,233,735

IMPORTS FROM THE INTERIOR, FOR FOUR YEARS,
Commencing 1st September, and ending 31st August, each year.

ARTICLES.	1853	1852	1851	1850
Bacon, ass'd, hhds, caks&c	54356	50360	57876	67277
Bacon Hams .....casks	42868	38488	44478	19335
Bacon, in bulk.....lbs	134300	281280	223500	209045
Bagging, Western..pieces	64144	60044	72304	58321
BaleRope, Western...coils	121553	90272	107224	86104
Butter ...kegs and firkins	44444	44786	54967	51058
Beef.....bbls and tierces	78791	52850	48066	65271
COTTON. Louis.& Miss...bales	1135172	967679	618156	474411
Lake .....bales	21614	15202	14399	10902
N.Alab&Tenn..bales	328176	304153	236821	249683
Arkansas .....bales	95032	85430	62793	44890
Montgomery &c bales	23995	21760	18051	17501
Mobile .....bales	38324	15606	24473	23647
Florida.....bales	7866	4807	11091	10601
Texas .....bales	14685	14546	9252	6088
Corn, in ears.....bbls	17620	163008	42526	42719
Corn, shelled.....sacks	1225031	1397132	1298932	1114897
Flour .....bbls	808672	927212	941106	591986
Hemp .....bales	17648	17149	25116	34792
Lard.....tierces & bbls	118136	125496	115570	228019
Lard .....kegs	159672	157689	151931	302366
Lead, Pig.....pigs	210287	267564	325505	415400
Oats.....bbls and sacks	446956	463273	479741	325795
Pork.....tierces & bbls	316592	276606	325008	543694
Pork.....hhds	2547	2478	1231	13968
Pork, in bulk.....lbs	12985810	8800000	10513895	15862431
Tallow.....bbls	1318	1307	6164	4862
Tobacco, Leaf.....hhds	75010	89675	64030	60304
Whiskey .....bbls	138515	146352	157741	117753
Wheat.....bbls & sacks	47238	64918	88797	57508

Imports of Specie, 1852-53 $7,865,226.—1851-52 $6,278,523,

DIRECT IMPORTS OF COFFEE, SUGAR, SALT,
For three years—from September 1 to August 31.

	1852–53	1851–52	1850–51
Coffee, Havana .....bags	10812	12525	10367
Coffee, Rio .....bags	338412	353616	274690
Sugar, Havana.....bxs	27087	25673	29293
Salt, Liverpool.....sacks	536974	580106	420838
Salt, T. Isl., &c.....bushels	305478	235952	419685

EXPORTS OF COTTON FROM NEW ORLEANS, FOR TEN YEARS.

Whither exported.	Bales		
	1852–53	1851–52	1850–51
Liverpool	869835	751172	562277
London	50	.....	.....
Glasgow and Greenock	39767	11700	15418
Cowes, Falmouth, &c	12434	7211	4678
Cork, Belfast, &c	.....	2159	.....
Havre	202957	183054	125067
Bordeaux	2317	1554	1164
Marseilles	5098	4308	4131
Nantz, Cette and Rouen	1154	7338	.....
Amsterdam	1375	259	489
Rotterdam and Ghent	1982	1507	1468
Bremen	14621	10248	12905
Antwerp, &c	22232	24562	10366
Hamburg	10531	17694	3235
Gothenburg	7392	6634	8180
Spain and Gibraltar	51443	47645	41018
Havana, Mexico, &c	20693	11919	565
Genoa, Trieste, &c	76902	75093	42537
China	.....	.....	.....
St. Petersburg, &c	37502	15046	11143
New York	73043	101938	52398
Boston	151580	128629	82540
Providence, R. I.,	16028	4561	.....
Philadelphia	19362	15594	14867
Baltimore	5126	4745	2511
Portsmouth	.....	.....	.....
Other coastwise ports	357	45	1
Western States	1200	1200	500
Total	1644981	1435815	997458

Commencing September 1, and ending August 31.

OF COTTON.

1849–50	1848–49	1847–48	1846–47	1845–46	1844–45	1843–44
378155	603455	619817	367810	521953	529675	488817
1367	305	.....	48	159	2025	518
10857	27533	27996	10598	17893	36213	21265
3741	11237	6270	6102	8134	17975	14893
3069	2488	.....	810	14181	.....	2182
112159	139910	123856	90103	146153	112995	107973
1006	3424	3178	330	2315	2314	1418
3618	11313	8659	3323	6806	7857	7462
630	.....	5275	1963	4254	1854	3127
.....	.....	1831	.....	2019	1253	1360
572	2659	304	595	53	2355	512
1801	12137	8716	4369	3419	9211	2770
11994	24338	14170	2912	7838	7196	8499
112	5321	7091	7466	3585	9123	3156
5021	7303	4887	4376	3877	1630	402
46296	42823	32565	17705	1679	821	.....
2292	16328	25468	9376	29800	62083	33151
36362	41614	45228	30542	52607	27201	19704
.....	.....	1490	.....	.....	2353	.....
6496	9304	13057	6579	8050	2267	1208
84891	67611	67578	55187	74757	52880	82814
109089	111584	143989	75546	111666	75375	72400
.....	360	1566	470	5783	78	211
15616	18486	16213	13582	13690	6784	6919
4017	4959	12328	7288	5507	3640	4698
.....	.....	5733	3491	2769	1053	4136
230	511	3132	1437	910	2423	3280
.....	2300	1500	2500	5000	6000	2500
838591	1167303	1201897	724508	1054857	984616	895375

EXPORTS OF TOBACCO FROM NEW ORLEANS FOR TEN YEARS—

Whither exported.	Hogsheads		
	1852–53	1851–52	1850–51
Liverpool	9458	7844	6457
London	6082	5197	6192
Glasgow and Greenock	.....	.....	.....
Cowes, Falmouth, &c	610	982	574
Cork, Belfast, &c	.....	.....	.....
Havre	1482	9056	659
Bordeaux	169	1916	517
Marseilles	1257	2976	3006
Nantz, Cette and Rouen	.....	.....	.....
Amsterdam	800	1157	.....
Rotterdam and Ghent	282	222	712
Bremen	15053	15515	7071
Antwerp, &c	4034	7618	570
Hamburg	125	475	75
Gothenburg	414	1229	941
Spain and Gibraltar	10175	7662	7454
Havana, Mexico, &c	.....	.....	.....
Genoa, Trieste, &c	1966	11134	5613
China	.....	.....	.....
St. Petersburg, &c	2647	3533	816
New York	7231	13347	10087
Boston	1331	1941	1594
Providence, R. I.,	.....	.....	.....
Philadelphia	688	1296	1118
Baltimore	124	385	754
Portsmouth	.....	.....	.....
Other coastwise ports	147	230	291
Western States	.....	.....	.....
Total	64075	93715	54501

Commencing September 1, and ending August 31.

OF TOBACCO.

1849–50	1848–49	1847–48	1846–47	1845–46	1844–45	1843–44
6662	6120	8706	3374	8976	4947	8808
6723	5362	10008	5173	12888	6475	8291
.....	.....	.....	.....	.....	.....	.....
3435	2535	1153	1148	2641	1131	5424
.....	.....	.....	.....	.....	.....	.....
718	6998	2201	1159	2215	3514	4846
579	1450	128	242	1067	1565	1156
759	2192	2625	2096	1006	3934	5102
.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	451	50	3775
824	.....	75	568	1104	1014	917
7719	4841	5252	4446	6328	12012	9602
2244	1077	3371	1652	4294	3862	2173
573	80	239	403	181	786	2303
1365	1041	945	949	943	909	734
4726	5620	7692	11795	9843	6749	10681
.....	.....	617	.....	.....	903	1601
5874	3845	3388	5046	2375	3001	1556
.....	.....	.....	.....	.....	.....	.....
1375	882	975	1008	298	794	1177
11305	7381	9573	5458	4848	6936	6960
1169	1089	1619	2664	913	4938	2585
.....	.....	.....	.....	.....	.....	.....
1291	1426	1369	2779	1030	2536	1286
277	885	200	301	427	478	1167
.....	.....	.....	.....	.....	.....	.....
337	135	228	115	217	2145	1100
.....	.....	.....	.....	.....	.....	.....
57955	52896	60364	50376	62045	68679	81249

Statement of Sugar Crop, from 1828 *to* 1852 *inclusive.*

Crop of 1852.....321,934 hhds.	Crop of 1840..... 87,000 hhds.
" 1851.....236,547 "	" 1839.....115,000 "
" 1850.....211,203 "	" 1838..... 70,000 "
" 1849.....247,923 "	" 1837..... 65,000 "
" 1848.....220,000 "	" 1836..... 70,000 "
" 1847.....240,000 "	" 1835..... 30,000 "
" 1846.....140,000 "	" 1834.....100,000 "
" 1845.....186,650 "	" 1833..... 75,000 "
" 1844.....200,000 "	" 1832..... 70,000 "
" 1843.....100,000 "	" 1829..... 48,000 "
" 1842.....140,000 "	" 1828..... 88,000 "
" 1841..... 90,000 "	

Monthly Arrivals of Ships, Barks, Brigs, Schooners, Steam-ships and Steamboats, for 3 years, from September 1, to August 31.

Months.	1852—1853.							1851—1852							1850—1851.						
	Ships.	Barks.	Brigs.	Schooners.	Steamships.	Total.	Steamboats.	Ships.	Barks.	Brigs.	Schooners.	Steamships.	Total.	Steamboats.	Ships.	Barks.	Brigs.	Schooners.	Steamships.	Total.	Steamboats.
September	46	20	10	42	18	136	197	31	21	12	43	14	121	140	31	22	12	54	17	136	175
October	105	20	20	39	19	203	208	74	32	26	51	18	201	186	49	17	18	32	15	131	152
November	83	38	20	46	17	204	290	107	26	19	44	14	210	194	77	34	40	66	13	230	259
December	63	41	30	60	19	213	411	105	66	41	77	14	303	293	61	39	43	64	12	219	408
January	83	67	40	66	24	280	427	69	39	29	55	13	205	297	68	48	29	67	15	227	336
February	58	66	54	94	25	297	410	95	33	30	70	18	246	285	42	34	38	71	13	198	311
March	142	77	38	69	20	346	357	74	29	30	64	20	217	365	88	32	34	90	17	261	326
April	72	32	25	54	24	207	279	59	27	24	76	24	210	290	54	21	27	79	17	198	272
May	50	29	16	47	22	164	294	92	32	26	60	17	227	242	50	29	31	53	24	187	243
June	48	29	22	33	21	153	160	59	30	21	55	24	189	238	43	21	16	50	18	148	159
July	9	15	10	27	17	78	119	20	21	17	41	19	118	127	34	13	17	47	17	128	152
August	23	13	10	19	18	83	101	22	15	12	37	18	104	121	18	10	10	31	12	81	125
Total	782	447	295	596	244	2364	3253	807	371	287	673	213	2351	2778	615	320	315	704	190	2144	2918

JOURNAL OF INTERNAL IMPROVEMENTS.

Hickman Railroad.

We have heretofore noticed the movements of the people of Hickman, Ky., in behalf of a railroad connection at that point between Nashville and St. Louis. We are pleased to witness the energy with which this enterprise is espoused, and are confident that much light will be brought forth and spread from that point, by the activity of those interested in its prosperity, which will promote the public welfare. The following information received from Hickman, is signifiant of an earnest spirit, and a prelude of more important developments which are now occurring:

At a meeting of the citizens of Hickman, Ky., and the friends of the enterprise, held at Jackson Hall, on Tuesday, the 2d day of August, 1853, the sum of Fifty thousand dollars was subscribed as stock for the purpose of constructing a railroad from Hickman to the Mobile and Ohio railroad, where the Northwestern railroad from Nashville, Tenn., to the Mississippi shall intersect said Mobile and Ohio railroad, in the valley of Houser creek, Obion co., Tenn. An election for Directors was gone into, and resulted in the choice of the following gentlemen: E. B. Fuqua, G. W. L. Marr, F. H. Wilson, J. F. Marrs, A. D. Kingman, B. R. Noles, G. W. Gibbs, O. F. Young, Wm. Robinson, Robert Matson, S. Burrus.

At a meeting of the Board of Directors, held at Jackson Hall, on the 3rd of August, G. W. Gibbs was elected President, and Frank Roulhac, Secretary.—On motion of Wm. Robinson, a call of 2½ per cent. upon the stock subscribed was made, payable on the 1st of September next. The President appointed an executive committee of six, composed of the following gentlemen: S. Burrus, O. F. Young, A. D. Kingman, E. B. Fuqua, Wm. Robinson and F. H. Wilson, who were instructed to employ engineers to make surveys and aid in locating said proposed road.

At a meeting of the Board of Directors, held at Jackson Hall, on the 8th of August, By-Laws for the government of the Board were reported, and, after some slight amendments, were adopted. A Treasurer was elected, and a committee of Two appointed to prepare and receive his bond, and report to the next regular meeting, on second Monday in September next.

Frank Roulhac, Secretary.

This demonstration will arouse both friends and rivals of Hickman; but let the friends be liberal and active, the rivals just and generous, and the result will prove to be their reciprocal advantage.

New Madrid Railroad.

Southeast Missouri is beginning to wake up from her sleep of ages; and is forming resolutions to join in the march of improvements. During the last year, we have invoked the spirit of the people in this portion of the State with earnest appeals. We framed and advocated a system of Internal Improvements, to make their land productive as that of Holland, and their people learned as those of Germany, and challenged investigation of its merits.*

On the 4th of July last, the people of Hickman, Ky., made a declaration to co-operate with the people of Southeast Missouri in Railroad improvements; and several publications have appeared in the Journal looking toward the consummation of this union. On the 27th of August, the people of New Madrid assembled, and passed a series of resolutions, which adopt the system we formed, and advocated for their interests, last winter, and appointed Judge Amos Riley, Wm. S. Mosely, J. J. Coe, and Jno. C. Underwood, Esqrs., a committee, to make preliminary arrangements to secure the establishment of the system.

On the 2d of September, a judicious and arousing column appeared in the New Madrid *Journal*, embracing some of the most valuable arguments we have seen on the subject of "RAILROADS."

On the 3rd of September, another enthusiastic movement was made by the people in New Madrid County, in furtherance of this cause; and as it indicates and extends the action on the previous week, it is so much the more valuable. Here is the official report:

RAILROAD CONVENTION.

Held in pursuance to previous notice, at the Point Pleasant Hotel, Point Pleasant, Mo., Saturday the 3d September, 1853.

The Hon. Robert G. Watson was called to the chair, and U. C. Spencer appointed Secretary.

Godfrey Lesieur, Welton Obannon, John Woodard and William N. Warren were appointed a Committee to draft resolutions. Col. Wm. S. Mosely was then called upon by the chair to explain the object of the meeting, who did so in a few words which were well directed to points of interest touching the subject.

Maj. J. Warner, of Tenn., was introduced to the assembly, who rose and addressed the audience in a plain and forcible manner, insisting upon the citizens of South-east Missouri to arouse and procure the construction of a branch of railroad, from the Iron Mountain railroad, to connect with the great Nashville Northwest-

* See "South East Missouri," page 313, vol. 9, *Western Journal & Civilian.*

ern railroad, whose terminus, according to its charter, must and would be opposite or near the spot where he was then speaking.

Col. Wm. S. Mosely then addressed the Convention in a very animated and brilliant discourse; urging upon the people the great necessity of immediate action touching the contemplated roads, and redeem down-trodden East Missouri from obscurity, to a state of greatness, worthy to be commercially and socially associated to her great and prosperous city of St. Louis, whose advance and growing prosperity is only equalled by the rapid progress of Internal Improvement throughout the country.

Col. J. J. Coe was then called to the stand, who rose and, with his characteristic spirit, ever ready to put his shoulder to the wheel in all public enterprises, delivered a spirited discourse; occasionally interspersed with happy and really funny illustrations, calling upon the people to arouse from a state of lethargy, and walk into action.

The committee then retired to draw up resolutions, and after an absence of two hours returned, and presented to the President the following preamble and resolutions:

Whereas, The State of Missouri has entered upon a judicious system of Internal Improvement, which is well calculated to fully develop the great agricultural, mineral and commercial resources of, not only her own territory, but the whole valley of the Mississippi, and that immense region of country lying west of the great valley, and stretching westwardly to the gold regions upon the shores of the Pacific. And, whereas, the county of New Madrid, owing to its central position, bordering upon the great "Father of Waters," and lying contiguous to the contemplated terminus of the Charleston and Nashville railroad, in Obion county, Tenn.; and also within thirty miles of the terminus of the St. Louis and Iron Mountain railroad, at the Chalk Bluffs, on the Missouri and Arkansas line, where the same connects with the great Mississippi Valley railroad, leading from the city of New Orleans, *via* Opelousas to Fulton on Red River; thence through Little Rock, Ark., to the Chalk Bluffs; thence to St. Louis, and on the dividing ridge between the Missouri and the Mississippi rivers, to the Iowa line; thence through Iowa to St. Paul, in Minnesota; which, when constructed, would form a continuous line of railway of 1325 miles—connecting the great and fertile regions of our northern territory to the sunny South upon the Gulf of Mexico.

And, whereas, our county is deeply and vitally interested in the construction of these several important improvements, and of a branch railroad from the Iron Mountain road at the Chalk Bluffs, to some point on the Mississippi river within the limits of New Madrid county, so as to form a connecting link with the great Charleston and Nashville railroad, thereby opening to our county the numerous avenues of commerce with the South, North, East and West, and thereby developing the great natural resources of our highly favored country, and building up in our midst a great,

prosperous and flourishing city; and bring into habitation and cultivation those immense quantities of Swamp Lands that now lie waste and act as a nuisance to the surrounding country—blighting and retarding our onward march to prosperity. Therefore,

1. Be it resolved, that it is the opinion of this Convention that every exertion should be made by the citizens of this county in getting stock subscribed to the Charleston and Nashville railroad, provided its terminus should be on the Mississippi river, in Obion county, Tenn., in conformity to its charter.

2. Be it resolved, that the construction of a branch of the Iron Mountain railroad, from the Chalk Bluffs to New Madrid county, by the most direct and practicable route, to the Mississippi river, is of great and vital importance to us, and to the whole of Southeast Missouri, and Northeast Arkansas; and that if the Iron Mountain railroad company should not undertake its construction, a company should be formed under our general railroad law, and the road built by the citizens of Missouri and Arkansas.

3. Resolved, that we earnestly recommend a speedy conference on the part of the committees appointed at the New Madrid convention, with the board of directors, of the Charleston and Nashville railroad, at Nashville; and also with the board of directors of the Iron Mountain railroad, at St. Louis.

4. Resolved, that this convention earnestly desire, that the Iron Mountain railroad company should have an early preliminary survey made of a route from some point of the Iron Mountain railroad, to the Mississippi river; and more particularly, one to some point in New Madrid county. And we pledge ourselves, that the citizens of this county will cheerfully afford every facility in their power to favour this important object.

5. Resolved, that this convention is fully satisfied from an actual survey made by the late Smith Shelby, Esq., county surveyor, for a state road, from New Madrid via Point Pleasant to Chalk Bluffs, that it is the shortest route to be reached on the Mississippi river, the distance being thirty-two miles, according to the survey and field notes now on file in the Clerk's office of New Madrid county; and the whole distance offering no obstacles to the construction of a railroad, and with an inexhaustible quantity of the very finest cypress timber contiguous thereto.

6. Resolved, that this convention, from the character and topography of the valley of the Mississippi river, from Commerce, in Scott county, to the town of New Madrid, is of the opinion, that a route could not be found from any point on the Iron Mountain railroad south of Wayne county, tapping the Mississippi river south of Commerce or north of New Madrid, but what would be subject to periodical inundations from the Mississippi river, and would require an immense additional expenditure for embankments to protect the road from overflow.

7 Resolved, that we pledge ourselves to redouble our exertions to increase the amount of stock already subscribed by our citizens, to the Charleston and Nashville railroad, to the sum of fifty thousand dollars; and, in the event of the location of a branch of the Iron Mountain railroad from the Chalk Bluffs, to some point in New Madrid county, we promise to take stock, in our individual capacity, and to use our influence in having our county to take stock, in her corporate capacity, in the same, believing that the sum of fifty thousand dollars could be thus obtained towards the construction of said branch road.

8. Resolved, that we approve of the formation of an Improvement County Committee in this county; and pledge ourselves to furnish said committee such statistics and general information, as will tend to develop our resources.

9. Resolved, that, in the opinion of this convention, it is highly important that a fund, sufficient to defray the actual traveling expenses of the visiting committee to and from St. Louis and Nashville, be raised by voluntary contribution, in the county; and that Godfrey Lesieur and Welton Obannon be added to the committ e to visit St. Louis, and confer with the Iron Mountain railroad company.

10. Resolved, that we recommend the citizens of Big Prairie in this county, the citizens of Scott, Dunklin, Stoddard, Butler and other counties in South-east Missouri, to hold public meetings in regard to the extension of the Iron Mountain railroad to the Mississippi river within the Southeast portion of the State of Missouri.

11. Resolved, That the proceedings of this Convention be sent to the "Journal of the Times," at New Madrid, Mo., to all the St. Louis papers and the "Western Journal and Civilian," of St. Louis, the Nashville "American and Union," and Nashville "Banner," for publication.

ROB'T. G. WATSON, President.

U. C. SPENCER, Secretary.

We trust that the people of New Madrid will establish a liberal policy, display enlightened views, hold out a generous hand toward all their rivals, and thus become as popular as they surely will be wealthy.

CAIRO AND FULTON RAILROAD.

THOMAS S. O'SULLIVAN, Esq., has been appointed Consulting Engineer of this road. For several months after the charter of the Cairo & Fulton Railroad Company was granted by the State of Arkansas, last winter, a lowering cloud of a political storm was gathered around its head. Its condition was one of imminent peril. It was denounced as a "visionary scheme too wild for a respectable maniac," and "worse than a man's trying to hold himself out at arm's length." But it was sustained on its own merits with indomitable energy. The cloud is now broken, the political storm is passing away; its prospects are brilliant. This road, having the Land grant of Congress, liberal subscriptions along its line, and the survey of Mr. O'SULLIVAN, and withal being a link in the Mississippi Valley Railroad, may well be considered as safe, not only from political, but also from financial storm.

ST. LOUIS AND IRON MOUNTAIN RAILROAD.

On the 20th of September the Board of Directors accepted the proposal of SAMUEL HOLMES, Esq., to build three sections of the Iron Mountain Railroad, reaching from the southern limit of the city of St. Louis to the mouth of the Meramec river, about 16 miles. Sec. 1st extends from City limit to River Des Peres, beyond Carondelet, 5 3-10 miles; Sec. 2d to Martigny branch, beyond Jefferson Barracks, 3 98-100 miles, and Sec. 3d to the valley of the Meramec, 6 53-100 miles.

We learn that the contractor has several hundred men at his command, that he will place a strong force on this work immediately, and that the road will be built, not only to the Meramec, but also on to the Iron Mountain, with the greatest practicable dispatch. The corps of Engineers were in Wayne County, 15th September, surveying the route towards Arkansas.

STE. GENEVIEVE, IRON MOUNTAIN AND PILOT KNOB PLANK ROAD.

The *Ste. Genevieve Plaindealer*, ever alive to Internal Improvement interests, brings us the following items of gratifying intelligence, dated 17th September, 1853, showing that the trunk road to the Iron Mountain is done, and a branch road to Mine La Motte and Fredericktown is projected:

STE. GENEVIEVE, IRON MOUNTAIN AND PILOT KNOB PLANKROAD. —The work on this road is now complete from this city to the Iron Mountain, a distance of forty-two miles. The road has been delivered and received by the Board of Directors, and all the toll-gates (five in number,) established. Mr. Dallam, of this county, has taken the contract to keep up and repair the road. It is now in full operation, and from all accounts, it is paying a fine dividend upon the money invested. The President of the Company will, at an early day, publish a full statement of the affairs of the Company, which we hope will give entire satisfaction to the stockholders. The terms of settlement with the contractors will also be given, so as to lay the whole transaction before the public.

MASS MEETING.

The undersigned, citizens of Ste. Genevieve county, feeling deeply the necessity of constructing a branch to the Ste. Genevieve, Iron Mountain and Pilot Knob Plankroad, from Fredericktown through Mine La Motte and Cook Settlement, to intersect the main road about twenty miles from the city of Ste. Genevieve, invite their fellow citizens to meet them at the Court House, in the city of Ste. Genevieve, on Saturday, the 24th day of the present month, at One o'clock P. M., to appoint Delegates to a Convention, to be held in Fredericktown, Madison County, Mo., on the 15th of October next, for the purpose of devising means to construct said Branch. A full attendance is expected. Come one! come all!!

L. C. Menard,	G. St. Gem,
J. F. St. Gem,	Pantaleon Vogt,
L. Bert. Valle,	Frs. C. Rozier,
Eugene Guibourd,	Lewis V. Bogy,
C. C. Ziegler,	Charles C. Rozier,
Peter Dufour,	A. Klemmer,
John D. Kern	Alx. Ziegler,
Ferdinand Rozier,	E. A. Rozier,
Auguste St. Gemme,	Sebastian Ziegler,
Felix Janis,	Henry L. Janis,
S. Swab,	F. A. Roy,
Felix Valle,	Anthony Lagrave
Charles Marsh,	John Crane,
J. B. Valle,	James Pinkley,
Felix Rozier,	H. Diel.

FORT MADISON, KEOSAUQUA & BLOOMFIELD R. R.

On the 9th of September, 1853, a Mass Railroad Convention was held at Fort Madison, Iowa. Hon. EDWARD JOHNSTON, President, 30 Vice Presidents, 5 Secretaries, and 7 Orators of the day. A series of 8 resolutions and a Memorial to Congress for a

grant of lands were unanimously adopted. The body of the resolutions is foreshadowed by the following preamble and first resolution:

WHEREAS, The Southern portion of Iowa is not only the most populous part of this State, but is also unsurpassed in beauty, health, richness of soil and extensive fields of stonecoal,

And WHEREAS, It is necessary that a railroad should be built from the Mississippi river through the Southern tier of counties in this State to enable the Agriculturists and Miners of that region to have the advantages of the Eastern and Southern markets and to fully develope the resources and wealth of Southern Iowa, therefore,

Resolved, 1, That we heartily approve of the plan of a railroad adopted by the citizens of Fort Madison, on the 20th ult., which is to start at Fort Madison and run to West Point, thence through Keosauqua to Bloomfield, there to unite with the "North Missouri Railroad," and that we further agree that said railroad shall as soon as circumstances permit, be continued from Bloomfield west, until it reaches the Missouri river.

The Memorial to Congress, after stating the general claims, specifies the following points:

Your Memorialists would further call your attention to the facts:

1st. That a Railroad running from the city of St. Louis in a northerly direction, called the "North Missouri Railroad," which it is believed will be completed in a very short period, will intersect the road from Fort Madison, at or near the town of Bloomfield, sixty miles west of Fort Madison.

2nd. That there are only about twenty miles of Railroad to be built through the State of Illinois from a point on the Mississippi river, opposite Fort Madison, to give this city, by aid of that and other States east, a direct and continuous Railroad communication with the cities of the Atlantic coast.

By the "North Missouri Railroad," the people of Southern Iowa can, at all seasons of the year, find a market for their produce and trade at St. Louis and the cities of the South, whilst the people of Northern Missouri as well as of Southern Iowa can always have speedy and convenient access to the East by the way of Ft. Madison.

The Memorial concludes with a prayer for a grant of "the alternate sections of all the public lands for six miles on each side of said road from Fort Madison to the Missouri river."

A resolution was passed recommending that subscription books be opened and survey of the road made with all possible dispatch.

Pacific Railroad.

Und keinen Tag soll man verpassen,
Das Mögliche soll der Entschluß
Beherzt sogleich beim Schopfe fassen,
Er will es dann nicht fahren lassen,
Und wirket weiter, weil er muß. Goethe.

'Tis indecision brings its own delays,
And days are lost lamenting over days.
Are you in earnest? sieze the present minute,
What you can do. or dream you can, begin it,
Boldness has genius, power and magic in it.
TRANSLATOR.

He who relies on the applause or the credit of others trusts to the quicksand. A generous confidence in one's own substantial resources is the surest guarantee of his success.

The Pacific Railroad is the theme of the age. Articles on its practical necessity, and the glory of its consummation are flowing from the pens of ready writers from Maine to Florida, and from Texas to Minnesota. Congress, at its last session, appropriated $150,000 for surveys of the Railroad through the territorial lands.

The Southern and Western Commercial Convention, at Memphis, in June last, resolved as follows:

THE PACIFIC RAILROAD.

Resolved, That a Railroad from the Mississippi Valley to the Pacific Ocean is demanded not only by commercial and individual interests, but by our national necessities.

Resolved, That as soon as the surveys, recently ordered by Congress, are completed, the General Government should adopt such steps as will insure the completion of the main trunk of said road at the earliest possible period.

Resolved, That the main trunk should be located on the route which scientific explorations shall show combines, in the greatest degree, the advantages of genial and temperate climate, fertility of soil, cheapness of construction, and accessibility at all seasons, from all portions of our Union.

Resolved, That in the opinion of the Convention it is right, expedient and proper that the General Government should make liberal donations of the public lands to the different States, bordering on either side of the Mississippi, to enable all sections of the Union, however remote, to connect themselves with the main trunk.

The Baltimore and Ohio Railroad and the Ohio and Mississippi Railroad will soon connect the central Atlantic coast with the central Mississippi valley. The State of Missouri has provided every necessary law, and bestowed liberal credit for the completion of the Pacific Railroad from the Mississippi river to the central border of the Territory. Thence, the most direct and practicable route

to the central Pacific coast at San Francisco, will be explored, disclosed and advocated, in due time for the action of the General Government. The Missouri charter provides for the extension.

Various surveys for this road have been made through the State of Missouri. The southwestern road reaching the Indian country near Arkansas, is insured for its success by the land grant of Congress and the loan of State credit. The Johnson county route to the Kansas has a fair prospect of success on account of favorable legal conditions, and because it is the shortest and cheapest. The Boonville and Lexington route will be sustained by the most substantial resources derivable from the energy and money of the people along the line. Total cost of river route $8,233,000.

Allowing the extraordinary merits of the other routes, we will direct our attention in this article to the last. The first division of the Pacific Railroad, to Franklin County, 37 miles in length, which is common to all the routes, was opened on the 19th July, 1853. The second division, to Jefferson City, 88 miles in length, which is common to both the Boonville and Johnson Co. routes, is under contract to be completed next year, and the work is now progressing accordingly. The remainder of the route, *via* Boonville and Lexington, is 166 miles, and *via* Johnson County is 155 miles. The cost of the latter or interior route, exclusive of rolling stock and land damages, is about $25,000 per mile, and the cost of the former or river route a few hundred dollars per mile more. Agents are appointed to obtain the right of way on both the interior and river routes.

The subscription for stock at and between St. Louis and Jefferson City is as follows:

By whom.	Amount.	Conditions, &c.
City of St. Louis.....	$500,000	In Bonds @ par 20 years.
County of St. Louis...	200,000	
Franklin County.....	50,000	Declin'd on account of its terms
Osage Co.....	8,000	On condit. of tak. Un. Ridge line
Osage Co.....	5,000	On do. Southern line.
Private subscription of Franklin Co.....	40,000	
Individual subscript. in the city of St. Louis	605,000	
Private subscription in Gasconade Co.....	16,700	
Private subscription in Cole Co.....	11,600	
	$1,436,300	

The subscription for stock west of Jefferson City is as follows:

By Whom.	Amount.	Conditions, &c.
Jackson county.....	$100,000	Road to pass through Co. Money to be expended in Co. after road is completed to Co. line.
Johnson co.	100,000	Road to pass through Co. Money to be expended in Co. Payable in bonds at par ⅓ 10 years, ⅓ 15, ⅓ in 20 years.
Morgan co.....	25,000	Road to run through County on southern survey.
Pettis co.....	100,000	In bonds @ 20 years provided road runs through Co. within 5 miles of Georgetown, and bonds not to be sold till road has reached the Co. line on east or west side.
Lafayette co.....	300,000	through county & city of Lexington.
Cooper co.	250,000	Bonds @ 20 years. Road to run through Boonville & Lexington.
City of Boonville...	50,000	City charter to be amended to give power to subscribe in 20 year bonds, through Boonville.
Moniteau county....	50,000	Road to run through town of California. Payable in bonds and other conditions objectionable.
Pettis co.	150,000	Inland route, and provided the $400,000 are raised.
Moniteau co.....	75,000	Do. and in lieu of previous subscription.
Johnson co.	50,000	Do. and provided the $400,000 are raised.
Cole co.	50,000	Rejected very objectionable.
Cass co.	75,000	Do. do· do.
Priv. sub. in Cooper & Moniteau count.	8,600	Provided road is located on inland or Georgetown route.
Do. in Pettis & Cooper	8,100	Do. do.
Do. in Moniteau co.	1,400	Do. do.
Asa Finley, Marshall, Saline co...	5,000	Provided road is located on Boonville and Lexington route.
Priv. subscription in the townsh. of Kansas, west of Big Blue.	31,800	Provided road runs through said township, and provided no payment is required till road is commenced in said township.
	$1,429,900	

The amount of State credit loaned to the Company to be applied to the Kansas route is $3,000,000. The sum total of subscriptions and State credit offered to the Company is therefore $5,866,200, leaving a balance even were this sum unconditional of $2,366,800, to complete the work, including engines and cars. How shall the useless conditional subscriptions and this total balance be supplied? By bonds of the company or by unconditional subscriptions for stock? These questions deserve profound consideration. The analysis of many elements affecting the financial prosperity of Europe and the United States, in general, as well as of the Pacific railroad enterprise, in particular, is necessary for their accurate determination. From the signs of the times one is impressed with the conviction that the farmers have a fairer prospect of realizing liberal prices for their products, than railroad companies have for their bonds. Should the bonds of the Pacific railroad be sought for as for bread, and command a living price, then the amount necessary for the completion of this work should be raised by their sale But should breadstuffs be in greater demand than railroad bonds, farmers are the men to build the road. And as the road would raise the price of their products as well as the price of their lands, and as their firm resolution to build the road out of their own resources, would be the best fulcrum by which the bonds of the company would be raised; and as moreover the farmers along the river are liberal-minded as well as wealthy, we will present before them a list of the counties through which the river route runs, together with their population and revenue in 1852, and suggest a policy, which, if they pursue, will prove to the world their enlightened sense and their patriotic spirit, will accumulate their fame and fortune, and secure the rapid prosperity of their cherished enterprise:

Counties.	Population.	Revenue in 1852.
St. Louis	121,853	$88,754 79
Franklin	11,193	4,608 78
Gasconade	5,740	1,086 61
Osage	5,914	1,493 59
Cole	5,597	2,347 15
Moniteau	5,572	1,535 66
Cooper	12,742	6,154 72
Saline	9,096	4,249 88
Lafayette	14,511	10,165 66
Jackson	13,914	7,009 43
	206,132	$127,406 27

St. Louis city and county, having subscribed $2,000,000 for the Mississippi Valley Railroad, with the almost unanimous vote of the people, could doubtless raise their joint subscription to the sum of $1,500,000, with a strong unanimity of the voters, in favor of the Pacific Railroad, to whose glorious destiny they are devotedly attached, and with whose brilliant fortune their own must rise.

The private subscription, in the city of St. Louis, to the Pacific railroad, being $605,000, if the corporate subscription should be raised to $1,500,000, the total subscription in St. Louis would be $2,105,000, which together with the State credit, $3,000,000, would leave a balance of only $3,128,000, to be supplied by the people of all the other counties to complete the road to the Indian country.

This subscription by the people of St. Louis would be as liberal as judicious, and would inspire the upper counties with the energy to subscribe respectively their full shares of the balance.

These respective subscriptions, judging from the route of the road, the relative population and wealth of the counties, and the proportionate value of the road to each, might be reasonably expected to approximate the following order:

St. Louis county	$2,105,000
Franklin "	350,000
Gasconade "	150,000
Osage "	175,000
Cole "	250,000
Moniteau "	175,000
Cooper "	525,000
Saline "	390,000
Lafayette "	575,000
Jackson "	538,000
Total subscription	$5,233,000
which together with State credit	3,000,000
amounts to the sum of	$8,233,000

being the last estimated cost of the road in operating order, from the Mississippi river to the United States Territory.

Franklin county, as above shown, has already subscribed $40,000 private subscription, which would be deducted from the allotment, $350,000. Lafayette county has subscribed $300,000, and the subsriptions in Cooper county, private and corporate, amount to more than $300,000, which is more than one half of their al-

lotments. The people along the lines, west of Jefferson city, are aroused by a noble rivalry and an energetic enthusiasm in behalf of their favorite routes, and they are donating the right of way with a liberality unprecedented in Missouri.

If a kindred spirit is manifested and maintained along the whole route, the people being enlightened, liberal and true to themselves, can raise the above means, bold as the measure is, out of their own resources: the amount being, on an average of all, only about $25 for each inhabitant of the above counties.

Let the farmers build the road, and the road will build the farmers.

In proof of this point, we adduce the evidence of Messrs. LEFFINGWELL & ELLIOTT, Real Estate Agents, of St. Louis, and refer to them and to the records of the county of St. Louis for further data of similar significance. The following items, which they have furnished us, foreshadow the brilliant prosperity dawning on the destiny of Missouri:

St. Louis, 20th September, 1853.

Messrs. TARVER & COBB.

Gentlemen:—In answer to your inquiry, we take pleasure in stating that property at Rock Spring, the first station on the Pacific railroad, about three miles from the Court House, sold five years since at $125 per acre, four years since $250, three years since $400, two years since from $600 to $1,000 per acre, one year since, by the foot, at from $8 to $10. At Cheltenham, the second station, property sold, 15th of May, 1851, in lots of about 15 acres each at an average of about $120 per acre. It is now selling by the foot at from $5 to $10, in the immediate vicinity of the station, and at from $400 to $1,000 per acre within a radius ¾ of a mile. Land in the "Glades," situated from ½ to 1 mile further, sold two years since at an average of about $90 per acre, will now sell from $200 to $500 per acre. At Kirkwood, 12½ miles distant, first depot, three years since land improved and unimproved, could be bought at $35 to $40 per acre. During the building of the road it was purchased at from $40 to $55, improved farms. The town of Kirkwood, 240 acres was purchased at $80 per acre, about 18 months since, and could have been purchased two months earlier, at $65—sold last spring as high as $700 per lot of 1/10 acre, and the lowest $350 per acre. The Melrose tract, about 550 acres, near Franklin county, 30 miles from St. Louis, and 5 miles from the Railroad, was bought two years ago at less than $10 per acre, and a portion of it sold in July, 1853, at an average price of more than $100 per acre.*

Respectfully, Your obt. servants,

LEFFINGWELL & ELLIOTT.

*On 26th September, 1853, two lots, being less than 1 acre, in Central Melrose, near the proposed College grounds, sold for $250.—JR. ED.

This evidence alone is strong proof of the wisdom of the policy pursued by the people of St. Louis, and is a guarantee of the safety of extending the same policy. The other counties can here see what they may gain by boldly pursuing a similar course.

The prospective income from the stock of this particular road is the final inducement we will at present offer for action on the above suggestions.

We quote from the report of THOMAS S. O'SULLIVAN, chief engineer of the Pacific Railroad, dated April 18, 1853:

Estimate of business to be expected on the Pacific Railroad, through Missouri, from St. Louis to Kanzas.

FREIGHT.

I will here repeat that as this route, in part, competes with the Missouri, I only assume business from census returns, as from south of the river.

From the country south of the Missouri river to a line twenty miles south of the Pacific Railroad, the census returns show:—

	Principal agricultural products,	Tons, 50,000	
	One-fourth horses and cattle,	No. 40,000	
	One-half sheep and swine,	No. 175,000	
129,000	This at $2\frac{1}{2}$ cents per ton per mile, with some addition for minor products, would fairly yield an equivalent to 129,000 tons, with average distance of 180 miles, equal to.....		$580,500
10,000	tons merchandise from St. Louis, 150 miles, at 4 cents per mile,.....		60,000
20,000	From the Osage River for some distance westward, the road passes near extensive fields of cannel coal. It may safely be estimated that 20,000 tons will be taken to St. Louis, average distance 125 miles, at $1\frac{1}{4}$ cents per ton per mile —about.....		32,000
20,000	For freight received from Upper Missouri, Santa Fe, Salt Lake, California, &c., and for return freight, and for government stores, it may be stated as not less than 20,000 tons—average distance 280 miles, at $2\frac{1}{2}$ cents per mile,.....		140,000
130,000	tons—produce and iron from South-western Branch, 40 miles, at $2\frac{1}{2}$ cents,.....		130,000
10,000	tons—merchandise to Southwestern Branch, 40 miles, at 4 cents,.....		16,000
	Mail and express, about,.....		20,000
319,000	tons.	Total freight,	$978,500

PASSENGERS.

	One quarter of the population (exclusive of St. Louis county), in the strip of country south of Missouri, for through passengers, and one-half for way passengers at 20 miles each, gives	
23,000	passengers, average distance 150 miles, at 2½c.	103,500
46,000	do. do. 20 do.	23,000
	To this may be added one-tenth and one-fifth of the residents on the north side of the river within 20 miles—	
5,000	passengers, average distance 180 miles, at 2½ cents per mile,	22,000
10,000	do. do. 20 do. do.	5,000
	There may be estimated for passangers for Salt Lake, California, the Upper Missouri, officers of the army and agents of government	
20,000	passengers, an average distance of 200 miles, at 2½ cents,.....	50,000
	For pleasnre travel, from St. Louis to the Meramec, Sulphur Springs, and for way business from neighboring villages and settlements, being now made there, may be estimated an average of 60 a day each way—	
45,000	for 10 miles equal to 45,000 at 25 cents.....	11,250
32,000	passengers from Southwestern Branch, 40 miles and return,.....	64,000
181,000	Total passenger business,.....	$279,250

Total freight,.....	$978,500	
Total passengers,.....	279,250	
Total estimated business,.....	$1,257,750	
Deduct 50 per cent. for expenses,..	628,750	
		$629,000
Estimated cost exclusive of cars and engines,.....		$7,483,000
Add for engines and cars,.....		750,000
		$8,233,000

Showing a dividend of about 7⅔ per cent.

Independent of the subscriptions above suggested, 142,080 acres of land granted by Congress are applicable to this route.

LITERARY DEPARTMENT.

Some Thoughts on Self Intellectual Culture.

BY A MEMBER OF THE KEOKUK (IOWA) BAR.

Having, in a previous number of your valuable Journal, endeavored to point out some of the connections and relations existing between Government and Education, and their reciprocal actions and influences, and especially, to enforce and illustrate the duty of every government to promote public instruction; I now propose to submit a few thoughts on the necessity, the means and the benefits of self intellectual culture. I wish to address some earnest words to the young men who are fairly launched upon the broad current of events, and must soon assume the responsibilities of manhood. They constitute the growing hopes of our country, and her destinies will be moulded by their hands.

The theme is one, allied with the highest well-being of society. It appeals to every noble faculty of the soul, and is linked with every tender feeling of the heart. I wish I possessed the genius of a Shakespeare, and the eloquence of a Tully, to do it ample justice—to animate it with life, and make it speak its own eulogy. I wish I possessed the pencil of a Raphael, and the coloring of a Titian, to mould it into form, to picture it in all its beauty and transcendent loveliness, and to impress and fasten it upon the reader's mind, as ranking high, and standing out prominently, in the great circle of human duties.

But these rich gifts are not mine. The offering I bring, though a poor one, is presented by a humble worshipper, with a heart as devoted in the cause of human progress as ever sought admission within the temple of Knowledge. I seek not, in this discussion, philosophic strain, nor fancy's flowery image—I seek the road that leads to wisdom and to usefulness—the influences which instruct the mind and stimulate a generous ambition—the fires that purify the heart and refine its sensibilities—the chain of thought which links the soul to God—reveals that soul's immortal powers and capacities—enriches it with the treasures of science and of literature, and baptizes it in the glories of genius and of art. I wish to strengthen and adorn the *moral fabric* by developing and rendering more opulent its intellectual capacities and resources. I wish to teach man his high dignity, his true importance, his duty, his responsibility, his destiny. I wish above and beyond all to vindicate the necessity and importance of self culture, in connection with the nature of the mind, our republican institutions, the characteristics of all human knowledge, and an appreciate sympathy with the transcendent advantages and enjoyments resulting from a well cultivated intellect and heart.

Now, whatever has for its end and purpose, the development of the mind, the culture of its faculties, and the enlargement of its capacities, is invested with a profound and peculiar interest, for it acts upon that *nature*, which remains with us through life, and survives after death. Every idea entering into *that mind*, every influence affecting its character, every impression left there, every ray of light or of knowledge thrown in upon it, of whatever kind or hue, imparts a tone, and gives a coloring to that mind's mould that will adhere to it throughout all time and eternity.

When we speak of the mind, we speak of that which no human eye ever beheld, except in its fruits, its accumulated productions, its diversified workmanship, its stupendous results, its magnificent achievements ;—of a something transcending all human power either to create or destroy, exquisitely and indescribably delicate in its construction, yet grand and terrific in its energy, fashioned from no model, each one unlike every other of its kind, fathomless, mysterious, peerless: we feel in its contemplation at once lost in amazement, and overwhelmed with awe.

Mind is indeed the peculiar and distinguishing characteristic of man; and is entrusted to him for noble and useful purposes. He is endowed with faculties elevating him above every other class of animated nature. These faculties are susceptible of indefinite improvement; and their acquisitions and achievements are illimitable. The more profound and accurate and diversified his acquirements, the more intelligent and commanding and efficient are his capabilities for higher and intenser effort. If we traverse the empire of science, explore the depths of philosophy, unlock the mysteries of nature, and quench our thirst at the fountain of poetic inspiration, yet the human mind will not rest satisfied. It will soar upward and onward to far distant regions, achieve new conquests, revel amid the glories and the music of yonder spheres, and wander abroad in majesty and triumph, continually increasing in greatness and power and splendor. There is within us a spark of celestial fire, ever burning, ever active, ever lifting us up to the great God of nature. It is a holy spark, an immortal spark, enwrought with mysteries unfathomable, revealing agencies incomprehensible, and opening before us, in the dark vista of the future, glimpses of awe inspiring and unsearchable destinies hereafter.

Such is mind exquisitely constructed, wonderfully endowed. It is so constituted, it cannot remain stationary; it must either retrograde or advance. Such is the law of its nature. Such is the signet impressed upon it by Deity. Indeed, all around us is action. Force existeth everywhere. We see it in the untiring pulse, and in the ceaseless coursing of the blood. We see it in the mighty cataract, and in the streamlet's murmur, in the uprising and outspreading of the majestic oak, and in the falling of the autumn leaf. We see it in the lightning's flash, and in the moon's soft

beams, in the sunshine, and in the storm. We see it throughout the whole empire of nature, and we feel it in our own mysterious existence. Action, force, an external influence, a superior power, an unfathomable intelligence pervadeth all. Else, why do yonder planets traverse their own appointed spheres? Why return the seasons in regular succession? Why flasheth the vivid lightning athwart heaven's deep blue? How cometh it, that the fields put on the green livery of spring, and yield the rich harvests of summer? Why ripeneth the fruits? Why falleth the genial shower? Else: Why doth the leaf rot and matter itself decay, if there exists no force? "This green, flowery, rock built earth, the trees, the mountains, rivers, many sounding seas, that great deep sea of azure that swims overhead, the winds sweeping through it, the black cloud fashioning itself together, now pouring out fire, now hail and rain; what is it? Ay, what?" A mystery. God's revelation.

And so it is with mind, constructed by the same great architect, governed by corresponding influences, and moved by unseen, yet resistless impulses, it cannot if it would remain in repose. Its machinery will continue in motion; and its character and power for good or evil, for individual happiness or misery, for high and brilliant achievement, or low and groveling pursuits, will, in a great measure, be determined by its early developments and culture.

The first impressions made upon the mind are seldom, if ever, completely erased, they ground themselves into its very nature. The principles we plant in early life, take deep root in the fresh, susceptible soil of youth, and yield fruit after their kind, they grow with its growth, and strengthen with its strength. If this view of the subject is correct—and we believe it is—then education and early culture assume an importance not ordinarily assigned to them. A clear-headed and ripe scholar very forcibly observes: "To an intellectual being in a cultivated state of society a certain amount of knowledge may be considered a necessary of life. If he does not possess it, he is shut out from a vast source of enjoyment, is liable to become the dupe of the designing, and to sink down into a mere animal existence. By learning how to read, he is enabled to acquire the whole knowledge which is contained within a language. By writing, he can act, where he cannot be personally present, and he can also benefit others by the communication of his own thoughts. By a knowledge of accounts, he is enabled to be just in his dealings with others, and to be assured that others are just in their dealings with men."

Now, by education, I understand simply improvement; and when applied to man, improvement too, as well of his *moral* as his *intellectual* nature. Where there exists not life, there cannot be education; and where there exists life, there may be education, in its broadest sense. The object is development, progressive eleva-

tion, the drawing out and strengthening of the moral and mental powers. Life is indeed a state of progressive education; experience is education reaped in the school of life. It is this peculiar faculty of the soul to preserve its triumphs, to invigorate its powers, and to multiply and throw abroad its influences upon others, that raises man above the brute, likens him unto his Creator, creates society, government and laws, enables him to appreciate the delicate relations and ennobling influences of justice, lends charms to social intercourse, endearments to the domestic circle, and lifts up the thoughts and affections from the selfish, degrading pursuits of earth to the contemplation of Him

> "Whose hand unrolled the spangled sky,
> And form'd each star that shines on high,
> And hung them on the brow of night,
> Like jewelled lamps of living light."

We have said, that the mind possesses attributes susceptible of indefinite cultivation, that exercise creates new energies, and that new acquirements elicit new capabilities for accumulated achievements. Hence springs the solemn inquiry: Are these grand and mysterious powers committed to our charge in the nature of a trust to be cultivated or not? The inquiry is a serious, an earnest one. Let us examine it.

In opening the volume of the human mind, and contemplating its history from infancy to manhood, from barbarism to civilization, from the darkness of heathenism to the light of christianity, we are impressed with the vast importance and controlling influence of mental culture, in all its relations to man and society. Reason and experience also teach us the same instructive lesson.

We find, that the *disuse* of the intellectual faculties degrades the individual, unfits him for the competent discharge of duty, and renders him fierce, brutal, a mere creature of impulse and of passion. The ignorant, uneducated man is incapable of fully enjoying either social blessings or civil privileges. He cannot appreciate the rich harmonies flowing from an intercourse with those immortal spirits, the creations of whose genius stand out amid the glorious and hallowed relics of the past. His pleasure centers in the gratification of his passions; and his views of happiness reach not beyond the passing hour. He sees not the hand of God in the whirwind or the storm. To his ear, there is no music in the whisperings of the viewless winds, and the carollings of the feathered singster. He can see no beauty in the morning dew-drop, or in the sparkling rivulet, or in the blushing flower, no grandeur, in beholding the howling tempest, the gleaming lightning, the rushing cataract, the upheaving earthquake, or in tracking yonder sun and stars in their ceaseless flight. The earth below, presents no loved scene of rational enjoyment, the memory of the past stirs up no delightful reminiscence, the heavens above reveal no exalted hope of future blessedness.

But reverse the picture. Change the scene from the condition of ignorance to that of knowledge, from rude affection and unlettered thought to refined sensibility and high intellectual development.

What is the redeeming, compensating influence of education, of exercise, of expansion *upon the individual?* Think ye, it degrades him? Does it lower him in the scale of rational beings? Does it make him more fierce, more passionate, more selfish, more immoral? By no means. On the contrary; it elevates, it refines. It preserves the equilibrium of the mind, subdues the passions, harmonizes and exalts the soul's affections, and confers a controlling power on reason and judgment. It renders him a more useful member, and a brighter ornament of society And it not only opens to him new fields of action, and qualifies him for the more efficient discharge of duty, but it furnishes him with exhaustless fountains of enjoyment and happiness, rich, priceless, ever-enduring in their character. To the educated man, everything above and around him is filled with beauty. The spring with its showers and blossoms and thickening foliage; the summer with her golden harvests and ripening fruits, the drooping flower and the seared and yellow leaf of autumn; the gold-fringed cloud floating in the clear upper sky; the lambent beams of the moon playing on the smooth waters, and picturing the neighboring landscape on their bosom—all are surpassingly beautiful. "Beauty," says an elegant scholar, "is an all pervading presence. It unfolds in the numberless flowers of the spring. It waves in the branches of the trees, and the green blades of grass. It haunts the depths of the earth and sea, and gleams out in the hues of the shell and precious stone. And not only these minute objects, but the ocean, the mountains, the clouds, the heavens, the stars, the rising and setting sun, all overflow with beauty. The Universe is its temple; and those men who are alive to it, cannot lift their eyes without feeling themselves encompassed with it on every side."

These are some of the sources of pure and rational enjoyment and exquisite pleasure springing from an educated mind. These are the peculiar and abiding treasures accompanying the pursuits of learning and virtue. These are the golden rewards that crown the brow of the aspiring student in his painful but honorable career. And will any one say, that these noble endowments, allying us with Deity, and conferring such illustrious privileges, were entrusted with us to be neglected and remain unimproved? Can it be supposed for one moment, that the faculties of the mind, so inefficient and worthless in a natural state, so efficient and valuable in a cultivated state, were ordained by an all-wise Providence for no useful purpose, for no important destiny? Can it be, that these capabilities of advancement in the scale of moral intelligence were inwrought with these faculties without design, and without intentional good to be derived from their improvement? Can it be, I

say, that intellect, so matchless and mysterious in its constitution, susceptible of infinite development, bearing upon it everywhere the stamp of Deity, encircling creation in its grasp, living with us in life, surviving our mortal nature in death, looking back over the broad track of time, reaching forward throughout eternity, can it be, that its cultivation is to be overlooked in the diversified account of human responsibility? I answer, no. Reason, religion, nature, conscience, all answer, it was not.

"Would the forms
Of servile custom cramp her generous powers?
Would sordid policies, the barbarous growth
Of ignorance and rapine, bow her down
To tame pursuits, to indolence and fear?
Lo! she appeals to nature, to the winds,
And rolling waves, the sun's unwearied course,
The elements and seasons: all declare
For what the Eternal Maker has ordain'd
The powers of man; we feel within ourselves
His energy divine: he tells the heart,
He meant, he made us to behold and love,
What he beholds and loves, the general orb
Of life and being; to be great like Him,
Beneficent and active."

Such is the poet's strong and thrilling appeal. And who can resist its pathos and its earnestness? Who does not feel within him the transcendent might and majesty of his own nature? Who does not discover around him the mysterious creations and transfusing influences of genius?

Who that looks abroad over the wide expanse of nature, and scaling the heights of science and philosophy, does not know that he possesses an immortal spirit, kindred with God,—*fires* that burn in splendor and with increasing intensity—*impulses* that lead him on and lift him up to all that ennobles character, enriches learning, and consecrates the finest and loftiest productions of the human intellect.

☞ The preceding essay is only an introduction to an elaborate treatise, which will be published in continuation on the subject under consideration. The radical strong common sense manifested by the author, is in admirable harmony with the eloquent language and enthusiastic spirit with which he arouses in the reader a strong affinity with his own mood of thought and feeling. The treatise indicates the practical ways and means of cultivating the soul to the highest condition of human capability, and we trust it may be read with avidity, and work like leaven throughout the mass of readers.

JUNIOR EDITOR.

THE PLAINS,

By FRANCOIS DES MONTAIGNES, of St. Louis.

CHAPTER ELEVENTH.

Wherein Francois describes the march of the packsaddle army through *oceans* of buffalo, and the great slaughter attendant thereon.

"Fuyez donc, l'abondance stérile,
Et ne vous chargez point d'un détail inutile.
Tout ce qu'on dit de trop est fade at rebuntant:
L'esprit rassaié le rejète à l'instant;
Qui ne sait se borner ne sut jamais écrire.—BOILEAU.

Buffalo chases, and the romantic scenery of the buffalo region, have too often formed themes for the tourist and journalist, for the humble chronicler of the exploring expedition of 1845, to indulge at this late day, in sketches of such wild sports and scenes; and even had the gifted pens of Irving and Kendall not already invested them with all the romance they deserve, the concise plan already resolved upon for the range of these memoranda would of itself effectually bar all items not immediately connected with the daily progress of the subject in hand: viz: the packsaddle expedition.

Our object being to narrate the adventures, and our aim being to preserve, at all hazards, the *unity* of our history as well as that of the expedition, we shall hereafter confine ourself to the simple, anvarnished, unwhitewashed detail of *matter-of-fact*, (the bone and sinew of genuine history); and without attempting in the least to enlighten our obliging reader, concerning things with which he has been acquainted longer than ourself, we intend to convey him leisurely and carefully along through this unsurpassed section of the West, without so much as indulging in a single shot or heaving a single sigh, as the hunters dash and scour among the thousands of game which darken the landscape. Coolness and calmness are sufficient for the occasion, and as these, like the art of packing a mule, are soon acquired by perseverance and practice, the reader may jog along, as Francois did, in the most satisfactory and unexcitable manner, and rest perfectly assured, that as long as he keeps cool, and Francois remains silent concerning the numerous modes and manners of hunting the American wild beasts, that every thing will go on smoothly enough, and that the hunters who are especially employed and paid to attend to this department, will keep all hands sufficiently well provided with the ourrent luxuries of the season.

Chasing the buffalo on horseback, is evidently the legitimate Indian fashion, for his very necessities compel him to use his lance and bow in the most effective way, and dispatch his game whilst all full speed, whilst the superior arms of the white man enable him to deal destruction from a distance, and unerringly decimate his victims as they remain at rest.

The amusement of riding upon them, and shooting them with shotguns and pistols, and all that sort of thing, was, during our

present march, pretty well monopolized by the regular hunters and officers of the expedition, who scattered themselves on either side at a respectable distance, and rode along on the right and left within sight, constituting two very decent and efficient wings of cavalry; whilst the balance of the company, the plebeians and the packmules, the cream and essence of the packsaddle expedition, rode slowly and mournfully along in Indian file, covering their train of rickety waggons and the travelling observatory; their legs dangling loosely and unambitiously, and their patient, forgiving mules finding their way along with heads so low as to leave it doubtful to say, whether they were ashamed of themselves or of their burdens: possibly they may have been attempting to ascertain the exact length of their bridles, as they had already sufficiently tested the strength of the pewter-bits and the patience of their riders; but more of this hereafter, for we will not let them run off with us *just* at present.

Such was the *tout ensemble* of this great exploring expedition, as it performed its astonishing march of twenty miles per diem, through the game region lying between Pawnee Fork and the Smoky Hill Fork of the Kansas. The only apparent charge in the *ensemble*, being a very visible increase or decrease of distance between the wings and body corporate which I have denominated the cream, according as signs evinced themselves on the horizon, denoting the presence of game or the approach of Indians.

Now and then, too, like an agreeable little episode in an uncommonly dry discourse, a stray antelope, attracted by the gaudy and novel display of the central division, as I have just described it, and impelled by curiosity to take a closer view of such outlandish objects, bore down directly upon us, like some tiny little yacht upon a fleet of *men-of-war*, and passing immediately under our very *bows*, received the broadside of the entire squadron, and paid the penalty of its curiosity by being scuttled with a dozen or so of balls, forty to the pound, from the heavy Hawken rifles of the now excited but impenetrable centre.

Sometimes a greenhorn of standing, or one known to possess sufficient cuteness to stick to his saddle during a hot gallop, would be selected to ride in among the buffalo, and create a panic, and considerable dust, but as such diversions were not likely to pay or to procure much meat, the captain wisely put a stop to the wanton waste of horseflesh, though perfectly indifferent as to the *bacon*.

Kit Carson is said to have killed five buffalo during a single race, and used but four balls, having dismounted and cut the ball from the wound of the fourth, and thus continued the chase : He is also said to have first established his reputation as a famous hunter by shooting a buffalo cow, during an impetuous race down a steep hill, discharging his rifle just as the animal was leaping one of the low cedars peculiar to the country; the ball struck a vital spot, and the cow remained in the dead and jagged branches.

The Indians who were companions in the hunt, looked upon the circumstance as something beyond their times, and insisted upon leaving the carcase in the tree as a *medicin.*

White buffalo are said to exist somewhere in the North, and petrified buffalo in the West, but as Francois did not encounter specimens of either, during the present circuit; it may be presumed that they are scarce in the country south of the Platte, and east of Hardscrabble, or, like the celebrated snow-white Pacer of the Canadian, choose to make themselves visible only to especial and favorite individuals; vieux voyageurs, for instance, or bully rocky mountain trappers. The numerous and marvellous anecdotes associated with the name of the buffalo, may of them mere yarns of garrulous voyageurs or exaggerated accounts of actual occurrences, would, were we inclined to be prosy, occupy more space than could well be spared in these our *concise* chapters, and as *dispatch* forms an essential ingredient in description as well as in travelling, we will leave minutiae of this order for the present, and adhering to the plan just stated, proceed with our plot and our heroes.

Whether the greenhorns, whose good fortune enabled them to indulge now and then in "the mad gallop o'er the plain,"—the stormlike charge, the hot headlong, fiery race, the quick shot, and the consequent quicker performances in ground and lofty tumbling, intended by all these to eclipse the wonderful exploits of Kit Carson, and all others besides, we leave to their own conscience, and to the cool, unbiassed judgment of the uninterested world. Their deeds, though merely mentioned here, will doubtlessly live in the songs of the poets, and be handed down among the legends of the mystic West; though, to tell the truth,

> There's many a hunter, born to ride unseen,
> And waste his powder on the prairie air.

The ancient range of the American buffalo or bison, once extending, according to every evidence of history and tradition, from the Rocky to the Alleghany Mountains, and embracing all that magnificent portion of America, known as the Mississippi Valley, from the frozen lakes above to the tierras calientas of Mexico, far to the South, has been gradually encroached upon and settled by the white man, until, like the lands of the Indians, it is now confinued to a single district of the West: the prairies or llanos. Even upon the broad, ocean-like bosom of these wastes, the persecuted buffalo is hemmed in and restricted to certain ranges of country, too sterile or too remote for the permanent resting place of man.

When spring with his bright face and pleasant showers gladdens the western landscapes, causing the snows on the mountain cap to melt, and the little springs to gush forth again from the rocks; the little creeks that sleep in the valley to awake and murmur along the sides of the bluffs and beneath the budding trees; leaping over

the pebbles, and splashing over the little rafts of the beaver; making the grass to spring up in the valley, over the bottom and over the prairie; then, the buffalo is tempted to leave his winter retreat in the southern plains of Texas and Coahuila, and feed his way over the gradually improving grass, into the meadows of the northern plateaux. Here he is immediately surrounded by hungry hordes of Sieux, Crows, Crees, Assinaboins, Blackfeet, Halfbreeds, &c., &c., just recovering from the famished torpor of a long and lazy winter, and countless emissaries of Fur companies, who measure his hide with a tincup, and slaughter him by thousands, until harassed and decimated he is again forced towards the South. Here he finds himself in the very stronghold of the buffalo-eaters: Chiennes, Caws, Pawnees, Osages, Arapahoes, &c , &c., who settle upon him like swarms of insects, and fill their cells with his meat, spending weeks and weeks in killing, drying and smoking, until having supplied themselves with provisions and clothing for months to come ; a big feast and a big surround drive the unfortunate beast down below the Arkansas into the Kiowa and Comanche stamping grounds.

These, taking up the lance and the bow, and already resolved upon a Mexican horse hunt, strike their lodges instanter, and with their hordes of squaws, papooses and wolf-like dogs, hang upon his heels, and stick to him like flies, following and feeding upon him until the poor persecuted animal has been literally *rubbed* and *wiped out.*

Like the wolf and the buzzard, the Indian and the white man quarrel over the quarry; the one for his meat, and the other for his hide ; leaving the bones to bleach in the scorching sun, and the skulls with their black horns to roll about before the sweeping blast as though the hobgoblins themselves had become famished, and were out a grazing;

> As though old Ender had forgot her keys,
> And all her impish household were unloosed;
> Dwarfs, goblins, ghosts, the *devil*, if you please,
> And all the bats that ever went to roost.

Hallo there! that won't do ; our muse, or rather our mule, has nearly succeeded in throwing us from our position. As much as we admire good poetry, and especially "*celekt pomes,*" we have just promised to stick to the subject, and include nothing in these chapters, but what is decidedly pertinent, and begging pardon, therefore, for the digression as well as for the *gem*, we presume that the forgiving reader will not hesitate to accompany us with his usual confidence in our ability as a trusty pilot on the adventurous and unparalleled enterprise in which we have engaged.

As one of the many queer incidents attendant on a prairie hunt, we may as well mention a singular adventure, of our two principal *chasseurs:* Archambeaux and Lajeunesse.

The one mounted on a mule, the other on a horse, came in sight of a large band of buffalo, feeding upon the plain, about a mile distant. The mule was not fleet enough, and the horse was too much fatigued with the day's journey, to justify a race, and they concluded to approach the band on foot. Dismounting and securing the ends of the lariettes in the ground, they made a slight détour, to take advantage of the wind, and crept stealthily in the direction of the game; approaching unperceived until within a few hundred yards, a few old bulls forming the outer piquet guard, slowly lifted their unshaved heads, and gazed long and dubiously at the approaching objects, until discovering that they were *not* wolves, but Archambeaux and Lajeunesse, gave a significant grunt, turned square about, as though on pivots, and in less than no time, the whole herd, bulls, cows, calves and all, were making the gravel fly over the prairie in fine style, leaving the brace of chasseurs to amuse themselves at leisure, by crawling over the prairie, or performing any other little gymnastics which circumstances might suggest. These had scarcely recovered from their surprise, and cast a glance at the retreating herd, when to their consternation, they beheld the whole band, several hundred in number, suddenly shape their course in the direction of their riding animals. The charge was a magnificent one; for the buffalo, mistaking the horse and mule for others of their own species, came down upon them in fine style. A small cloud of dust arose for a moment over the spot where the animals had been stationed, the dark mass moved on with accelerated violence, and in a few seconds the horizon shut them all from view. The horse and mule, together with all their trappings, saddles, bridles and holsters, were never seen nor heard of afterwards either by the two chasseurs or by the astonished chronicler of the Packsaddle Expedition.

Varieties Theater.

Good taste in the Fine Arts, indicates appropriate conduct, refines material sensibilities, and augments social happiness. Bad taste produces reverse influences. Theaters combine various Fine Arts—painting, poetry, dancing and music. The taste displayed in the Arts at a Theater, if bad injures, if good promotes the civilization of the people. The manager courts the favor of the public. If the public prefer representations of bad taste, the manager is tempted to furnish injurious works of art. If the public demand and maintain representations of good taste, refining works of art are supplied by the manager with proud satisfaction.

We are pleased to note an extraordinary movement this month made by J. M. Field, Esq., manager of the *Varieties*, in which he is sustained with remarkable liberality by the lovers of Fine Arts. Fine dramatic pieces were presented on this stage in the beginning of this month, and the talented Neafie and Crampton illustrated noble traits of human nature awaking sparks of a kindred character in the spirit of the spectators.

Next the dancing genius of Spain—the beautiful SOTO appeared and produced a sensation profound as enthusiastic—a mingled emotion of respect and admiration. Her representation of her art is best described in the words of Milton delineating Eve:

"Grace is in all her steps,"
"In every gesture dignity."

The last trait displays even better taste than the first, and we trust it may be cultivated so much the more by the community.

Refined operatic pieces, blending the charms of instrumental and vocal music with exquisitely tender and with thrillingly heroic actions, are now performed by the distinguished DE VRIES and her accomplished corps, on alternate evenings with the other pieces.

St. Louis is making a bold movement, and we hope will assume immediately a commanding position as patron of the Fine Arts. May every Shakspearean Cassius be converted,

"He who has no music in his soul,"

become imbued with the spirit of harmony, and every germ of civilization and refinement bud, bloom and bear fruit of the highest order of excellence.

The Tempest of the Soul.

BY MARIA GERTRUDE BUCHANAN.

On stormy Doubt's tempestuous ocean,
Once, struggling, tossed my bark of life,
Loud was the billows' fierce commotion,
Fearful the wind's o'erwhelming strife,
The thunders hoarse of Justice started
Affrighted Conscience from her sleep,
And Guilt's red lightnings wildly darted
Their lurid glare across the deep.

Sin's midnight darkness had enshrouded
The beaming "Sun of Righteousness,"
The golden Star of Faith was clouded,
Its rays cheered not my deep distress,
The warfare wild fair Peace affrighted,
Her snowy wings she plumed for flight,
Not e'en *Hope's* smile, resplendent, lighted
The gloom of that remembered night.

Death's icy form seemed hanging o'er me,
Upon my soul his terrors fell;
Despair's dark whirlpool yawned before me,
—Beyond appeared the lowest hell;
Onward my fated bark was rushing,
Wild horror woke within my breast,
—When lo! the tempest calmly hushing,
A *voice* was heard proclaiming "*Rest.*"

Oh God! oh God! my glad emotion
As Mercy's seraph form appeared,
With glorious wing she swept Doubt's ocean,
And high a golden banner reared;
The symbol on its folds engraven
—The CROSS on which a SAVIOUR died—
Was, to Religion's blessed haven,
My only, true, unerring guide.

St. Louis, September 25th, 1853.